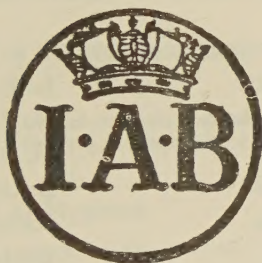


HELMINTHOLOGICAL ABSTRACTS

incorporating
BIBLIOGRAPHY OF HELMINTHOLOGY
For the Year 1938.



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY
(HELMINTHOLOGY)

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HELMINTHOLOGICAL ABSTRACTS
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Abstracts in the present number are by :

J. J. C. Buckley.	J. W. G. Leiper.
Phyllis A. Clapham.	R. T. Leiper.
S. G. Cowper.	D. O. Morgan.
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HELMINTHOLOGICAL ABSTRACTS

INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY
FOR THE YEAR 1938.

Vol. VII, Part 4.

273—Agricoltura Coloniale.

- a. PENSO, G., 1938.—“ Su alcune Anguillulinae parassite degli ortaggi in Libia e sul modo di combatterle.” 32 (6), 241-252.

(273a) [For abstract of this paper see below No. 293e.]

274—Agriculture and Live-Stock in India.

- a. SEN, P., 1938.—“ Rôle of mosquitoes in the transmission of animal diseases.” 8 (6), 689-694.

275—American Journal of Clinical Pathology. Technical Supplement.

- a. MOSS, E. S., 1938.—“ Useful methods for routine and special examination of stools with particular reference to diagnosis of intestinal parasites.” 2 (2), 43-55.

276—American Journal of Hygiene.

- a. AUGUSTINE, D. L., 1938.—“ Observations on the occurrence of heart-worms, *Dirofilaria immitis* (Leidy, 1856), in New England dogs.” 28 (3), 390-395.

(276a) Direct blood examinations for filariasis showed that infection was present in 8 out of 94 dogs, but was not present in the foxes examined in eastern Massachusetts. No infection was discovered in New Hampshire. Evidence of pre-natal infection with the parasite *Dirofilaria immitis* is given.

J.W.G.L.

277—American Journal of Public Health.

- a. HOBMAIER, H. & GEIGER, J. C., 1938.—“ Trichinelliasis in San Francisco.” 28 (10), 1203-1211.

(277a) Hobmaier & Geiger discuss the epidemiology of trichinosis in San Francisco, and the incidence of natural infections in rats, pigs and cats from various sources in the city. Control measures which have been, or should be taken, are described. The latter consist in the control of garbage feeding to hogs by thorough cooking or other suitable treatment of the garbage, where such garbage may contain raw or undercooked pork scraps; and the education of the consumer as to the necessity of thorough cooking of pork and pork products.

V.D.V.S.

278—American Journal of Roentgenology and Radium Therapy.

- a. BEAL, A. M., 1938.—“Calcified guinea-worm (*Dracunculus medinensis*). A report of 5 cases.” 39 (2), 210-215.

279—American Journal of Tropical Medicine.

- a. WRIGHT, W. H., BOZICEVICH, J. & GORDON, L. S., 1938.—“Studies on oxyuriasis. VII. Clinical improvement following treatment with single doses of tetrachlorethylene.” 18 (5), 609-617.

280—Anadolu Kliniği.

- *a. ATAKAM, A. M., 1938.—[Hydatid cysts and their surgical therapy.] 6, 80-83.

281—Anales de la Facultad de Medicina de Montevideo.

- *a. SURRACO, L. A., 1938.—“El quiste hidático del riñón su topografía, su diagnóstico pielográfica su terapéutica.” 23, 1-134.
*b. PIAGGIO-BLANCO, R. A., 1938.—“Equinococosis pulmonar múltiple.” 23, 135-170.

282—Anales del Instituto de Biología.

- a. CABALLERO y C., E., 1938.—“Algunos tremátodos de reptiles de México.” 9 (1/2), 103-120.
b. CABALLERO y C., E., 1938.—“Revisión y clave de las especies del género *Glypthelmins*.” 9 (1/2), 121-149.
c. CABALLERO y C., E., & PEREGRINA, D. I., 1938.—“Contribución al conocimiento de los nemátodos de las aves de México. VII.” 9 (1/2), 151-163.
d. NIETO ROARO, D. & CABALLERO y C., E., 1938.—“Nota acerca de la presencia de *Clonorchis sinensis* en México.” 9 (1/2), 165-166.

(282a) New trematodes described from reptiles are: *Polystoma domitilae* n. sp. and *Cercorchis dissimilis* n. sp. from *Chrysemys ornata*; and *Renifer grandispinus* n. sp. from *Drymarchon corais melanurus*. The bladder of one turtle, *Kinosternon hirtipes*, contained over 100 specimens of *Polystoma oblongum* and showed much inflammation, and a semi-solid mucopurulent secretion. E.M.S.

(282b) Descriptions and figures of the 10 species of the trematode genus *Glypthelmins* are here gathered together from literature and from mounted specimens. A key is given for the separation of all the species. E.M.S.

(282c) Nematodes are described from Mexican birds as follows: *Ascaridia hermaphrodita* from *Scardafella inca*, *Contracaecum microcephalum* from *Pelecanus erythrorhynchus* and *Nycticorax nycticorax naevius*, *Habronema mansonii* from *Buteo borealis calurus*, *Monopetalonema alcedinis* from *Streptoceryle torquata torquata*, *Aprocta nyctidromi* n. sp. from the conjunctival sac of *Nyctidromus albicollis nelsoni*. E.M.S.

(282d) *Clonorchis sinensis* having been introduced into Mexico by infected Chinese, the possibilities of the parasite establishing itself are briefly considered. None of the normal intermediate hosts are present,

* Original not available for checking or abstracting.

except the gold-fish *Carassius auratus*: furthermore, Mexicans do not include raw or half-cooked fish in their diet. It is pointed out, however, that *Onchocerca volvulus* has been able to adapt itself to new intermediate hosts, and so disseminate itself in parts of Mexico.

E.M.S.

283—Annales d'Anatomie Pathologique.

- a. LAMBERT, P. L. & DAGNELIE, J., 1938.—“Cysticerose du quatrième ventricule. (Étude anatomo-clinique).” 15 (5), 489-516.

284—Annales de Parasitologie Humaine et Comparée.

- a. DOLLFUS, R. P., 1938.—“Étude morphologique et systématique de deux espèces d'acanthocéphales, parasites de lémurien et de singes. Revue critique du genre *Prosthenorchis* Travassos.” 16 (5), 385-422.
- b. LAVIER, G., LEROUX, R. & CALLOT, J., 1938.—“Un cas de cancer multicentrique du foie associé à la distomatose hépatique chez un mouton.” 16 (5), 423-428.
- c. CALLOT, J., 1938.—“Sur un *Diphyllobothrium* de la loutre.” 16 (6), 526-529.
- d. DOLLFUS, R. P., 1938.—“Au sujet d'une cercaire de dicrocoeliidé récemment observée en Bretagne.” 16 (6), 560-561.
- e. DOLLFUS, R. P., 1938.—“Un helminthe de primate inexactement indiqué comme parasite du chat.” 16 (6), p. 561.
- f. BALOZET, L. & CALLOT, J., 1938.—“Trématodes de Tunisie. Heterophyoidea. (Note préliminaire).” 16 (6), p. 562.

(284a) In his illustrated revision of the genus *Prosthenorchis*, Dollfus shows that the species described by Travassos as genotype, under the name *P. elegans* (Diesing), is actually *P. spirula* (Olfers). These two species along with *P. lühei* Travassos appear to be identical and should be named *P. spirulä*, all the well authenticated specimens of which are either from tropical South America or from zoological gardens.

B.G.P.

(284b) Lavier, Leroux & Callot describe numerous scattered epitheliomata with metastatic foci in the liver of a sheep infested with *Fasciola hepatica* and *Dicrocoelium dendriticum*. They point out that, whilst benign adenomata are frequently associated with these flukes, malignant growths are rarely so; yet the latter are not uncommon in infections of *Opisthorchis* and *Clonorchis*.

B.G.P.

(284c) Callot collected diphyllobothriid eggs from faeces found by a stream at Richelieu (Indre-et-Loire), and presumed by their position and type to be those of an otter. After 21 days incubation the eggs appeared to be mature and were fed to *Cyclops albidus*. When development in the *Cyclops* appeared complete they were fed to various species of fish, but no infestation was obtained.

E.M.S.

(284d) Having had the opportunity of examining material of cercariae within their sporocysts, described by F. Chalaux in 1935 (Bull. Soc. Sci., Bretagne, 12, 53-57), Dollfus is able to show that it belongs to the dicrocoelid group. A notable feature is the presence of numerous encysted cercariae within the sporocysts; this event might be constant for a given species (where, e.g., the host is a malacophagous bird), or might be a response to

unfavourable external conditions, in which case it might occur even within the species *D. dendriticum*, the host in this case ingesting the snail accidentally with its food. B.G.P.

(284e) Dollfus corrects his earlier record of *Nephridiacanthus kamerunensis* Meyer, in the cat [see Helm. Abs., Vol. VII, No. 165e]. Meyer originally gave the native name "Esingi," but later amplified it as "Zwergmeerkatze" or *Cercopithecus talapoin*. B.G.P.

(284f) In a preliminary note, Balozet & Callot briefly record the Heterophyidae and Microphallidae found by them in Tunis. *Heterophyes heterophyes* has been found adult in cats, and its metacercaria in mullet (confirmed by experimental feeding to cats). Metacercariae common in *Palaemonetes punicus*, when fed to mice, yielded within a few hours adult *Levinseniella pellucida* with eggs *in utero*. B.G.P.

285—Annales de la Société Belge de Médecine Tropicale.

- a. DAVID, J., 1938.—"Note sur l'emploi des sels de cuivre: Dicuprène et Cuprochine, dans la schistosomiase urinaire." 18 (3), 377-380.
- b. BERGHE, L. VAN DEN & DENECKE, K., 1938.—"*Dicrocoelium dendriticum* (*Fasciola lanceolata*) chez l'homme et les singes au Congo Belge." 18 (3), 509-514.
- c. DUBOIS, A. & VITALE, S., 1938.—"Présence de *Microfilaria streptocerca* au Nepoko (Congo Belge)." 18 (4), 553-556.

(285a) David finds that both "Dicuprène" and "Cuprochine" are ineffective in the treatment of vesicular schistosomiasis. Daily doses of both drugs were given, but in all 26 cases treated the urine remained positive for *Schistosoma haematobium* eggs up to the 15th day of treatment. K.S.

(285b) *Dicrocoelium dendriticum* is reported from Africa for the first time. It occurred in 2 European cases who had resided in the Belgian Congo. Eggs were found in the faeces of 3 *Pan satyrus*, 6 *Papio*, 5 *Cercocebus* and 3 *Cercopithecus*, and adult worms were recovered from the duodenum of 2 monkeys, viz., a *Papio* and a *Cercocebus*. No eggs were present in the bile ducts. R.T.L.

(285c) An important focus of *Microfilaria streptocerca* in man, previously recorded once from the Gold Coast, has been found at Nepoko in the Belgian Congo. Six microphotos accompany the text. R.T.L.

286—Annali d'Igiene.

- a. VANNI, V., 1938.—"Sul potere cirrogeno delle uova di *Capillaria hepatica*." 48 (9/10), 529-531.
- b. ZAVATTARI, E., 1938.—"I problemi sanitari dell'Impero: schistosomiasi e malacofauna nell'Africa Orientale Italiana." 48 (9/10), 573-582.
- c. LABRANCA, G., 1938.—"Incidenza della trichinosi nell'uomo." 48 (9/10), 583-592.
- d. STARKOFF, O., 1938.—"La preparazione dei platelminti col metodo di Dammin." 48 (9/10), 609-611.

(286a) Vanni describes a case of cirrhosis in the liver of a wild brown rat, associated with a heavy infestation of *Capillaria hepatica*. He ascribes the lesions largely to the ova, and suggests parallels with schistosomiasis.

B.G.P.

(286b) Reporting on the distribution of schistosomiasis and of freshwater molluscs in Italian East Africa, Zavattari points out that vesical schistosomiasis is practically confined to the valley of the Webi Shebeli [southern Abyssinia and Somaliland]. A few cases of intestinal schistosomiasis have been reported from scattered localities (Asmara, Adigrat, Harar). Five species of possible *S. haematobium* carriers are widely distributed over the 3 Italian colonies, while *Planorbis boissyi* has been found repeatedly in Eritrea and Abyssinia, but not in Somaliland.

B.G.P.

(286c) Labranca reviews the history, biology, clinical findings and diagnosis of trichinosis.

V.D.V.S.

(286d) Describing Dammin's recent method for preparing tapeworm segments [see Helm. Abs., Vol. VI, No. 319b], Starkoff states that he has found it excellent, not only for tapeworms but also for flukes. A microphotograph of a taenia egg, within the uterus, clearly reveals details of fine structure.

B.G.P.

287—Annali di Medicina Navale e Coloniale.

- a. MOISE, R., 1938.—“Osservazioni sulle elmintiasi d'interesse epidemiologico in Somalia (1932-1937).” 44 (9/10), 444-451.

(287a) Moise has met with most of the common helminthiasis in Somaliland, including 5 cases of dracontiasis: these were all pilgrims returned from Mecca, and the disease appears not to be endemic. There is some evidence of filariasis in the colony, but not in Moise's area. The important parasites, with which the paper is mainly concerned, are hookworms (both species) and *Schistosoma haematobium*. 45% of 568 apparently healthy persons and 40% of 1,524 hospital cases had hookworm eggs in the faeces. Data on the incidence of schistosomiasis are lacking, but it is widespread, and the local carrier appears to be a species of *Physopsis* (illustrated) other than *P. globosa*.

B.G.P.

288—Annali della Società Medica Coloniale della Libia.

- a. NASTASI, A., 1938.—“Intorno alla terapia della bilharziosi vescicale con l'antimonio pentavalente.” 1938, [Reprint 14 pp.]

(288a) Nastasi reports on the successful treatment of Schistosomiasis haematobia with a solution of pentavalent antimony. 5 c.c. of the solution are given intravenously on the first day, and 10 c.c. on each of the following nine days. This entire cycle of treatment can be repeated several times if necessary, with a week's rest between each cycle. The author stresses the importance of urine examination every 15 days during and for some time after treatment.

K.S.

289—Annals of Applied Biology.

- a. EDWARDS, E. E., 1938.—“Investigations upon the control of oat sickness by the addition of certain chemical substances to soil infected with *Heterodera schachtii* Schmidt.” 25 (4), 855-866.

(289a) Edwards describes pot experiments to determine the effects of ferrous sulphate, ferric oxide, ferric chloride, nitrate of soda and calcium cyanamide on infestations of the oat-strain of *Heterodera schachtii*. The experiments extended over 2 years and the effects of treatments on vegetative growth, yield and infestation by the nematode are described. In the second season the residual effects of the dressings were studied. Some improvement in growth resulted from all the treatments during the first year but only calcium cyanamide applied at over 40 cwt. per acre materially reduced the numbers of cysts shown by the roots of oats grown in the soil. No cysts were found on the roots of plants in soil treated with 80 cwt. and 100 cwt. per acre during the first season following treatment, and in the latter case no cysts were found on the second season's plants.

M.J.T.

290—Annals of Tropical Medicine and Parasitology.

- a. CABALLERO Y C., E., 1938.—“Nematodes of the reptiles of Mexico. II.” 32 (3), 225-229.

(290a) Of 3 nematodes described 2 are new, viz., *Ozolaimus ctenosauri* n. sp. from an iguana, *Ctenosaura acanthura*, and *Strongyluris similis* n. sp. from the lizard, *Sclerophorus torquatus*.

R.T.L.

291—Annotationes Zoologicae Japonenses.

- a. YOSHIDA, S., 1938.—“On a new genus *Microphalloides* of the trematode.” 17 (3/4), 327-336.

(291a) Yoshida has obtained experimental infections in mice, rats, guinea-pigs, dogs and sparrows, by feeding with trematode larvae occurring in large numbers in the crab *Helice tridens tridens*. The cirrus sac of the adult possesses two chitinous plates of unequal size, one at either end of the cirrus, which distinguish it from *Microphallus*. A new genus, *Microphalloides*, is therefore created for *Microphallus japonicus* Osborn, 1919. The natural final host is unknown.

E.M.S.

292—Archives des Maladies du Coeur et des Vaisseaux.

- a. BENHAMOU, E., MONTPELLIER, R. & SOLAL, G. C., 1938.—“Kyste hydatique du coeur.” 31 (1), 17-24.

293—Archivio Italiano di Scienze Mediche Coloniali e di Parassitologia.

- a. PISTONI, F., 1938.—“Fauna murina in Eritrea e nello Scioa. Ricerche parassitologiche.” 19 (7), 388-394.
b. CIAMPOLILLO, P. & SOLLINI, A., 1938.—“Enterite acuta con elmintiasi in Tripolitania.” 19 (7), 399-405.

- c. CICCHITTO, A. M., 1938.—“La velocità di sedimentazione globulare nel parassitismo intestinale da protozoi ed elminti.” 19 (10), 614-631.
- d. CASTELLANI, G. T., 1938.—“Protozoi e parassiti varii riscontrati nella *Vipera aspis*.” 19 (10), 632-640.
- e. PENSO, G., 1938.—“Su alcune Anguillulinae parassite degli ortaggi in Libia e sul modo di combatterle.” 19 (12), 706-722.
- f. ROETTI, C., 1938.—“Considerazioni sulla elmintiasi degli ovini del Galla e Sidama.” 19 (12), 723-730.
- g. ROETTI, C., 1938.—“Considerazioni sulle elmintiasi degli equini del Galla e Sidama.” 19 (12), 731-737.
- h. VLACH, G., 1938.—“Il reperto di cisti da echinococco negli animali da macello.” 19 (12), 738-740.

(293a) Reporting on the mice and rats, and their parasites, from the port of Massawa and from the plateaux of Eritrea and Shoa (Abyssinia), Pistoni refers to the following helminths. *Hymenolepis diminuta* was common in *Mus rattus rattus* from the granaries of Massawa where the grain is infested with insects, whereas *H. nana* was not found. The nematodes were represented by *Trichuris* in 5%, and “*Ascaris*” in 3% of murines. B.G.P.

(293b) Discussing 15 cases of acute enteritis in man in Tripolitania, Ciampolillo & Sollini suggest that the commonest parasite found, *Trichuris trichiura*, may be one possible cause of this condition. B.G.P.

(293c) Penso describes and figures eelworms from the roots of certain vegetables. The following, he considers, are new to science, namely, *Monhystera parasitica* n. sp., *Gaddinia armata* n. g., n. sp., *Diploscapter libycus* n. sp. and *Cephalobus brevicauda* n. sp. T.G.

(293f) Gastro-intestinal helminthiasis in sheep, in Galla and Sidama, claims more victims than any other disease. Roetti briefly describes Ostertagia, Trichostrongylus, Bunostomum and Oesophagostomum which are the principal worms involved. The disease is equally grave in goats and calves. B.G.P.

(293g) In equines, Roetti reports, helminthiasis is a serious problem in Galla and Sidama and often terminates fatally. The commonest helminths are *Gastrodiscus aegyptiacus*, various Strongylus and Trichonema species, *Habronema microstoma*, and Oxyuris. Less commonly Trichostrongylus, Anoplocephala and *Fasciola hepatica* are encountered. Local conditions favour heavy infections and in some cases, e.g., almost the entire gastric mucosa is covered with Habronema. The various helminths are briefly described, as is also the very prevalent Gastrophilus. B.G.P.

294—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. RODRÍGUEZ-ESTEVAN, C. M. & LOUBEJAC, A. M., 1938.—“Equinococosis primitiva heterotópica del abdomen.” 13 (4), 469-483.
- b. HARÁN, A. M., 1938.—“Pneumo-quiste hepático hidático residual post-rotura peritoneal.” 13 (4), 484-492.
- c. MANFREDI, F. J., 1938.—“Tratamiento de los quistes hidáticos del pulmón con pleura libre. A propósito de siete observaciones.” 13 (5), 611-628.

295—Australian and New Zealand Journal of Surgery.

- a. BARNETT, L., 1938.—“Hydatid cysts involving the dome of the liver.” 7 (3), 195-206.

296—Australian Veterinary Journal.

- a. CLAY, A. L., 1938.—“A note on the prevalence and pathogenic importance of *Hyostromgylus rubidus* in pigs in North Queensland.” 14 (5), 194-197.

(296a) Clay gives a short review of the literature on *Hyostromgylus rubidus* in swine, and adds his personal observations during an outbreak. The macroscopic and microscopic appearance of the heavily infected stomach is described. Treatment with carbon bisulphide in capsules only resulted in improved appetite 10 days later, whereas carbon tetrachloride caused considerable improvement in health.

J.W.G.L.

297—Beiträge zur Klinik der Tuberkulose.

- a. MÜLLER, R. W., 1938.—“Über die flüchtigen eosinophilen Lungeninfiltrate. Zur Frage der Lungenentzündungen durch Spulwurmlarven.” 92 (3), 254-274.

(297a) A transitory eosinophilia localized in the lungs, and due to the migration of *Ascaris* larvae, is recognized as a definite pathological entity in man by Müller, who discusses several case reports and reproduces many illustrative skiagrams of the thorax. The latter, along with the blood picture and the presence of larvae in the sputum, are diagnostic features. The disease can be reproduced experimentally.

B.G.P.

298—Beiträge zur Klinischen Chirurgie.

- a. RAČIĆ, J., 1938.—“Eigene Erfahrungen über den Echinokokkus auf Grund von 354 operierten Fällen.” 167, 495-506.

299—Berliner und Münchener Tierärztliche Wochenschrift.

- a. STENGEL, 1938.—“Verbreitung und Bekämpfung der Rinderfinne.” Jahrg. 1938 (45), 692-695.

(299a) Stengel ascribes the increase in the figures for *Cysticercus bovis* in German cattle during 1922-1935 to (i) more careful meat inspection, (ii) increased consumption of meat, and (iii) the fact that sewage purification plants allow ova to pass through unharmed. As a control measure, Stengel puts forward the suggestion that a reward of 5 Marks be paid to lay meat inspectors for each measly carcass discovered. It is also contended that inspection should be as far as possible in the hands of veterinary surgeons.

A.E.F.

300—Biological Bulletin.

- a. YOUNG, R. T., 1938.—“The life history of a trematode (*Levinseniella cruzi*?) from the shore birds (*Limosa fedoa* and *Catoptrophorus semipalmatus inornatus*).” 74 (2), 319-329.
- b. STUNKARD, H. W., 1938.—“The morphology and life cycle of the trematode *Himasthla quissetensis* (Miller and Northup, 1926).” 75 (1), 145-164.
- c. STUNKARD, H. W., 1938.—“*Distomum lasium* Leidy, 1891 (syn. *Cercariaeum lintoni* Miller and Northup, 1926), the larval stage of *Zoogonius rubellus* (Olsson, 1868) (syn. *Z. mirus* Looss, 1901).” 75 (2), 308-334.

(300a) Young describes a trematode which he believes to be *Levinseniella cruzi*. The cercaria is similar to *C. ubiquita* Lebour and is found in the snail *Olivella biplicata*. Encystment as a metacercaria takes place in the sand-crab, *Emerita analoga*, which carries the infection to the final hosts.

E.M.S.

(300b) Stunkard has worked out experimentally most of the life-cycle of *Cercaria quissetensis*. The early stages up to the cercaria are found in the snail *Nassa obsoleta*. The cercariae penetrate and encyst as metacercariae in various marine molluscs, but little development takes place. Specimens encysted 3 days are infective for birds, and become mature echinostomes in the herring gull, *Larus argentatus*. The adults are distinct from *Himasthla elongata* (Mehlis), but some of the specimens described by Linton under that name are identical with the present species to which the cercarial name is referred, so that it becomes *H. quissetensis* (Miller & Northup).

E.M.S.

(300c) Stunkard is able to show that *Zoogonus rubellus* and *Z. mirus* are almost certainly identical, from all known habitats on both sides of the Atlantic, the age of any given specimen determining its resemblance to one or the other description. At Woods Hole, Mass., the primary host is the snail, *Nassa obsoleta*, the secondary host is most commonly the annelid, *Nereis virens*, and the natural definitive host is probably the eel, *Anguilla chryssa*, or the toadfish (*Opsanus tau*?). The larvae emerging from the snail are shown to be true cercariae, although completely tailless, and hence suppression of the term *Cercariaeum* is urged.

E.M.S.

301—Boletín del Instituto de Clínica Quirúrgica.

- a. ARCE, J. & IVANISSEVICH, O., 1938.—“Hidatidosis pulmonar múltiple. Lobectomía parcial. Curación operatoria.” 14 (118), 1142-1145.
- b. IVANISSEVICH, O., FERRARI, R. C. & RIVAS, C. I., 1938.—“Equinocosis hidatídica del pulmón.” 14 (119), 1153-1182.
- c. IVANISSEVICH, O., PIÑERO, T. A., RISOLÍA, A. A. & RIVAS, C. I., 1938.—“Secuelas cavitarias de los quistes hidatídicos del pulmón.” 14 (119), 1230-1234.

302—Boletín Sanitario del Departamento Nacional de Higiene.

- a. CASTILLO ODENA, I., 1938.—“Papel que desempeña la escuela en la profilaxis de la anquilostomiasis en la República Argentina.” 2 (2), 136-144.

303—Bollettino della Società Italiana di Biologia Sperimentale.

- a. USUELLI, F. & BALIAN, B., 1938.—“Ricerche ematologiche e biochimiche in bovini normali ed affetti da distomatosi epatica.” 13 (2), 45-46.
- b. BUONOMINI, G., 1938.—“Diffusione dell'elmintiasi in alcuni centri della Campania.” 13 (9), 796-799.

(303a) Usueli & Balian give in a detailed table a number of haematological data pertaining to 13 chronic cases of fascioliasis in oxen, 5 cases of recent infestation, and 8 controls. The data are: (i) number of eggs in 10 faecal smears; (ii) number of flukes calculated from this by the method

of Pataki; (iii) number of flukes found in a careful search of the liver—this value is higher than (ii) on the average; (iv) weight of liver; (v) haemoglobin, by the Sahli-Leitz human scale; (vi) red and white cell counts—the red count is only 30% normal in recent infestations; (vii) differential white count—showing a slight decrease in lymphocytes and increases in basophiles and eosinophiles (the controls gave eosinophiles 14%); (viii) for the serum, pH, tonicity, specific gravity, chlorides and total nitrogen. B.G.P.

(303b) Buonomini has examined, by direct smear, the faeces of some 430 inhabitants (mostly young children) of 5 towns and villages in Campania, with a view to determining the incidence of helminthiasis, which in turn is regarded as an index of faecal contamination. The very high incidence of helminthiasis, from 70 to 100%, is associated with deplorable hygienic conditions, which are briefly described for each community. *Ascaris* and *Trichuris* are the commonest worms, but *Hymenolepis nana* and *Enterobius* are also found. B.G.P.

304—Brasil-Medico.

- a. CASTRO CAIADO, I. DE, 1938.—“Occlusão intestinal por ascaris.” 52 (29), 657-662.
- b. SIFFERT DE PAULA E SILVA, G., 1938.—“Estrongyloidiase duodenal.” 52 (37), 835-839.
- c. RIBEIRO PIRES, J., 1938.—“Asphyxia, obstrução intestinal e abcesso por ascaris.” 52 (44), 987-988.

305—British Medical Journal.

- a. DENOVAN, A. E. B., 1938.—“Sulphanilamide for filarial lymphangitis.” [Correspondence.] Year 1938, 2 (4060), p. 919.
- b. EMBREY, M. P., 1938.—“Pelvic hydatid cysts and obstructed labour.” Year 1938, 2 (4066), 1201-1203.

(305a) Sulphanilamide tried on a single case of filarial lymphangitis in a Fijian showed a direct and rapid therapeutic action. R.T.L.

306—Bulletin of the Fan Memorial Institute of Biology. Zoological Series.

- a. HSÜ, H. F., 1938.—“Studies on the food and the digestive system of certain parasites. II. On the food of *Schistosoma japonicum*, *Paragonimus ringeri*, *Dirofilaria immitis*, *Spirocerca sanguinolenta* and *Rhabdias* sp.” 8 (4), 347-366.
- b. HSÜ, H. F., 1938.—“Studies on the food and the digestive system of certain parasites. IV. On the food of *Diplotrichaena tricuspis* (Nematoda).” 8 (5), 403-406.

(306a) *Schistosoma japonicum* use both red and white cells as food. The red cells are disintegrated very rapidly, giving rise to brown pigment. The food of *Paragonimus ringeri* consists mainly of inflammatory cells and occasionally also of red cells and tissue cells. *Dirofilaria immitis* feeds exclusively on red and white cells. *Spirocerca sanguinolenta* consumes inflammatory cells passing through the nodule walls. *Rhabdias* sp. from the lung of a toad contained only red and white cells in the intestine. The decomposition of the red cells differs in the different worms. R.T.L.

(306b) From a study of the intestinal contents of *Diplotrriaena tricuspidis* from the crow, Hsü concludes that its food consists of the inflammatory exudate of the thoracic cavity. It does not normally take blood. The presence of iron-positive granules in the intestinal cells bears no definite relationship to the amount of red cells digested, and may not represent the total amount of iron absorbed by the cells.

R.T.L.

307—Bulletin. Hawaii Agricultural Experiment Station.

- a. ALICATA, J. E., 1938.—“Observations on the life history of *Fasciola gigantica*, the common liver fluke of cattle in Hawaii, and the intermediate host, *Fossaria ollula*.” No. 80, 22 pp.

(307a) Alicata states that the common fluke of cattle in the Hawaiian islands is *Fasciola gigantica*. Flukes collected there from sheep and horse by Rowat in 1892-94 and at the time diagnosed as *F. hepatica*, are also *F. gigantica*, and it is likely that Lutz (1892) was also dealing with this species. The intermediary, *Fossaria ollula*, is probably Lutz's *Lymnaea oahuensis*. Developmental stages of the parasite are described and figured. The eggs hatch after 14 days at 78° to 82°F., and the intramolluscan phase occupies 39 days. Moist cysts remain infective for 122 days, but on plants exposed to sunlight they are not infective after 42 days, and they will not survive 3 months' treatment either of ensilage or of the “A.I.V.” acid-preservation of fodder. Development of the fluke occurred in 5 guinea-pigs, 10 rabbits, a pig and a calf, egg-laying commencing after 77 to 84 days. The bionomics of *Fossaria ollula* are dealt with briefly.

B.G.P.

308—Bulletin de l'Institut Océanographique de Monaco.

- a. GUIART, J., 1938.—“Étude parasitologique et épidémiologique de quelques poissons de mer.” No. 755, 15 pp.

(308a) Guiart has examined post-mortem material from fishes dying off in a marine aquarium at Monaco. He identifies the trematode *Paracreadium genu* from the intestine of *Labrus festivus*, larval ascarids of the genus *Amphicaecum* from the liver and peritoneal cavity of the same host, similar larvae of the genus *Contracaecum* from the liver of *Pagellus erythrinus*, and a larval cestode, *Floriceps oxneri* n. sp., from the body cavity of *Coris julis*. Responsibility for the death of the fish is laid largely on the nematode larvae.

E.M.S.

309—Bulletins from the Institute for Medical Research, Federated Malay States.

- a. POYNTON, J. O. & HODGKIN, E. P., 1938.—“Endemic filariasis in the Federated Malay States.” No. 1, 67 pp.

(309a) *Microfilaria bancrofti* occurs sporadically in Malaya and is endemic only in Singapore. It is found for the most part in Indians and Chinese, rarely in Malays. *Mf. malayi* on the other hand is essentially endemic and occurs extensively in certain riverine areas in the F.M.S., viz., those adjoining the Perak river, the Bernam river and the Pahang river. The

project of developing these areas for rice cultivation on a large scale has led to the present investigation into the extent of filariasis and the possibility of controlling it. Malays are the chief sufferers from filariasis in the F.M.S. Of 983 cases of elephantiasis, 819 were Malays, 159 Tamils and 5 Chinese. Transmission experiments have shown *Mansonia annulatus*, *M. annulifera*, *M. longipalpis* and *M. uniformis* to be vectors of *Mf. malayi*. *Mansonia indiana* showed a variable degree of infectibility. Dissection of mosquitoes for natural infections showed *M. longipalpis* and *M. uniformis* to be important natural carriers. *M. indiana* is unimportant. The clinical aspects of *Mf. malayi* infection are described in detail from the earliest detectable lesion, i.e., symptomless inguinal adenitis, through lymphangitis to the final stage of elephantiasis. Periodic lymphangitis, approximately monthly, is characteristic of the disease and it is suggested may be the result of periodic parturition of the female worm. Elephantiasis is confined to the legs; of 322 cases examined, 320 were leg affections. The technique and results of diagnosing filariasis both by thick blood film examination and by intradermal reaction tests are described.

J.J.C.B.

310—Bulletin. Los Angeles City Board of Health Commissioners.

- *a. VENER, H. I. & STEVENS, G. M., 1938.—“Trichinosis: report of an outbreak of 25 cases.” No. 33, 17 pp.

311—Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris.

- a. LAFFERRE, 1938.—“Fièvre bilieuse hémoglobininurique observée en France, révélatrice d'un paludisme à 'falciparum'. Ankylostomiase.” 54 (33), 1700-1702.
b. BRETON, M. & LAVIER, G., 1938.—“Un cas de cysticercose musculaire généralisée, décelé par la radiographie.” 54 (34), 1721-1725.

312—Bulletin of the Naval Medical Association, Japan.

- a. HAYASHI, N. & URA, S., 1938.—“Examination of parasite eggs in Hoko-to Island.” 27 (3), 197-205. [In Japanese: English summary p. 20.]

(312a) Of 1,215 persons including school pupils and sailors in Hoko-to Island, 38.7% had *Ascaris*, 8.6% *Strongylus* [? *Trichostrongylus*], 0.16% hookworm, and 0.25% *Oxyuris*.

R.T.L.

313—Bulletin de l'Office International des Epizooties.

- a. MANNINGER, R. & KOTLÁN, A., 1938.—“Influence des conditions de l'élevage, de l'alimentation et de l'entretien des animaux sur la genèse, l'évolution et la persistance des maladies infectieuses et parasitaires.” 16, 62-82.
b. WAGENER, K., 1938.—“Influence des conditions de l'élevage, de l'alimentation et de l'entretien des animaux sur la genèse l'évolution et la persistance des maladies infectieuses et parasitaires des animaux domestiques.” 16, 83-121.
c. TAYLOR, E. L., 1938.—“Les gastrites parasitaires. Étude des larves de trichostrongylidés parasitaires dans les pâturages.” 16, 181-194.

* Original not available for checking or abstracting.

(313a) Discussing the influence of external conditions on the evolution of infectious and parasitic diseases in animals, Manninger & Kotlán point out that the breed of host has little or no effect on parasitic diseases. Age is, however, important: young animals are both more receptive and less resistant to pathological effects than older ones. Moreover, infestation with one species of parasite appears to increase receptivity for other species. These and other factors, such as diet, overstocking, type of parasitic life cycle, are illustrated by reference to numerous helminthic and other parasites. B.G.P.

(313b) Following the same general lines as the preceding paper, Wagener gives more detailed attention to the influence of diet, and selects examples more from infectious than from parasitic diseases. Briefly, under-nutrition is held to be a less harmful influence today than excessive protein-consumption (demanded for intensive production) which upsets the regulatory action of minerals and vitamins, which in turn need to be increased. B.G.P.

(313c) Taylor summarizes recent work on the bionomics of the trichostrongylid infective larvae of sheep on pasture, their longevity, site of occupation on different types of herbage, and migration in the soil and on the herbage. He also gives his results of grass examination and states that heavily infected pasture contains 2,000 to 3,000 infective larvae, and slightly infected pasture 200 larvae per pound of grass. Hay 18 months old is recorded as having contained 200 larvae per pound. For the destruction of these larvae at pasture the grazing of non-susceptible animals is recommended; one horse, for example, would destroy 50,000 to 100,000 trichostrongyle larvae per day on a heavily infected pasture. J.W.G.L.

314—Bulletin de la Société de Pathologie Exotique.

- a. HUARD, P., 1938.—“Quelques remarques sur les arthrites par ver de Guinée.” 31 (8), 722-725.
- b. DÉJOU, L., 1938.—“Suppuration d'un kyste à onchocercues (*Onchocerca volvulus*).” 31 (8), 725-726.
- c. ADVIER & DÉJOU, L., 1938.—“Arthrite aiguë du genou avec présence d'embryons d'*Onchocerca volvulus* dans le liquide articulaire.” 31 (8), 727-730.
- d. COMANDON, J. & FONBRUNE, P. DE, 1938.—“Film sur les champignons prédateurs de nématodes.” 31 (10), 882-884.
- e. GALLAIS, P., 1938.—“Deux cas de cysticerose cérébrale avec manifestations épileptiques.” 31 (10), 915-919.
- f. MAUZÉ, J., 1938.—“Considérations histo-pathologiques sur les lésions intestinales relevées dans un cas d'ankylostomiase du noir.” 31 (10), 919-921.

(314d) This is a note dealing with the presentation by Comandon & Fonbrune of a film on the mechanism of capture by the following nematode-trapping fungi: *Dactylaria brochopaga*, *Dactylella bembicodes*, *D. ellipsospora*, *Arthrobotrys oligospora* and *Stylopaga hadra* [see below Nos. 318e, f & g]. T.G.

315—Bulletin de la Société de Pédiatrie de Paris.

- a. KAPLAN, M. & CHAMPAULT, J., 1938.—“Méningite aiguë lymphocytaire très probablement vermineuse.” 36 (1), 62-68.

316—Canadian Journal of Comparative Medicine.

- a. SWALES, W. E., 1938.—“The policy concerning the control of stomach worms of sheep in Eastern Canada.” 2 (11), 289-292.
- b. PHILLIPS, F. C., 1938.—“Some diseases met in China.” 2 (12), 316-319.

(316a) Swales describes the policy to be adopted in the control of *Haemonchus contortus* in sheep in Eastern Canada. Farmers will be given leaflets recommending specified dosage of 2% copper sulphate and 1.5% nicotine sulphate as a routine drench for ewes and lambs, with full instructions as to the treatment. This, it is claimed, will remove all or nearly all the *Haemonchus* and a large percentage of the less frequently occurring small trichostrongyles and tapeworms.

J.W.G.L.

(316b) Of the diseases of dogs in China filariasis is the most fatal. 60% are affected but only 25% show symptoms. Antimosan causes the microfilariae to disappear after 5 to 6 injections. The dose and spacing of the injections is varied with the degree of infestation. The dose usually given is 1 to 3 c.c. combined with 0.5 to 1 c.c. of novocaine.

R.T.L.

317—Chinese Medical Journal.

- a. ANDREWS, M. N., 1938.—“A survey of intestinal parasites in Chinese hospital patients in Shanghai.” 54 (4), 341-350.
- b. CHU, H. J., 1938.—“Studies on *Clonorchis sinensis* in vitro. Part II. Action of various dyes.” 54 (5), 409-415.

(317b) Chu finds that of a series of 16 dyes belonging to the aniline, phthaline, acridine and sulphonamide groups, gentian violet has the greatest clonorchicidal action, a 1/40,000 solution causing death within 24 hours. The tests were carried out *in vitro*, using *Clonorchis sinensis* in a medium of inactivated horse serum diluted with an equal quantity of Ringer's solution.

K.S.

318—Comptes Rendus des Séances de la Société de Biologie.

- a. COUTELEN, F., 1938.—“Sur la structure et sur la morphogenèse de la membrane cuticulaire des hydatides échinococciques.” 129 (25), 149-151.
- b. DÉVÉ, F., 1938.—“L'échinococcose secondaire des séreuses thoraciques chez la souris blanche.” 129 (25), 160-162.
- c. JOYEUX, C. & BAER, J. G., 1938.—“L'évolution des plérocercoides de la Ligule intestinale.” 129 (26), 314-316.
- d. ROMAN, E., 1938.—“Sur la localisation, chez le ténébrion, du cysticercoïde de l'*Hymenolepis* nain des muridés.” 129 (29), 551-552.
- e. COMANDON, J. & FONBRUNE, P. DE, 1938.—“Recherches expérimentales sur les champignons prédateurs de nématodes du sol. Conditions de formation des organes de capture.” 129 (30), 619-620.
- f. COMANDON, J. & FONBRUNE, P. DE, 1938.—“Recherches expérimentales sur les champignons prédateurs de nématodes. Les pièges garrotteurs.” 129 (30), 620-622.
- g. COMANDON, J. & FONBRUNE, P. DE, 1938.—“Recherches expérimentales sur les champignons prédateurs de nématodes. Les gluaux ou pièges collants.” 129 (30), 623-625.
- h. MORICARD, R. & TSATSARIS, B., 1938.—“Nouveau montage microcinématographique en 16 mm. Prise de vues de piqûres, d'injections, d'ablations du noyau ou du nucléole dans des ovocytes de souris ou d'*Ascaris*.” 129 (33), 934-936.
- i. VANNI, V., 1938.—“Ascariodose et phénomène de Sanarelli.” 129 (34), 1052-1055.

(318b) Having injected hydatid scolices into the right pleura of 3 mice, Dévé found that hydatids developed in all 3 thoracic serous spaces: both pleurae and the pericardium. That this effect is purely mechanical was shown by a similar injection of lycopodium, which was found similarly distributed. There was no trace of migration of scolices through either of the pleural layers, nor through the diaphragm. Also, no cysts were found attached to the visceral layer: they were either free or attached to the parietal layer.

B.G.P.

(318c) Joyeux & Baer report further on the life-history of *Ligula intestinalis* [see Helm. Abs., Vol. V, No. 26a; Vol. VII, No. 18a]. When plerocercoids were introduced into the abdominal cavity of a cat, the adult *Ligula* developed there in 4 days: sections showed spermatogenesis and oögenesis in the worm with the production of a normal proportion (75%) of hatchable eggs. After a similar experiment in rabbits only a negligible proportion of eggs developed fully; moreover, plerocercoids swallowed by a rabbit failed to develop. With a number of artificial media, development occurred only in horse serum and in ascitic fluid, and in these there was normal oögenesis but practically no spermatogenesis, so that the eggs did not develop.

B.G.P.

(318d) Roman was able to get the cysticercoid stage of *Hymenolepis* in the coleopteran *Tenebris molitor* after experimental feedings with material from young white mice. Of 10 beetles, 4 became infected; 2 contained a single cysticercoid in the muscles of the prothorax, another contained 2, both in the abdominal haemocoel, and the fourth contained 4 larvae. Of these one was in the muscles of the metathorax and the other 3 in the abdominal haemocoel.

P.A.C.

(318e) Comandon & Fonbrune have studied the conditions under which ensnaring organs are developed on the hyphae of 5 nematode-destroying fungi isolated from garden soil. The fungi were raised in pure culture on a "Quaker oats" beer yeast medium. Nematode larvae were cultured under sterile conditions from isolated eggs. In the absence of nematodes, snares are not produced, but when nematodes are added to the fungus cultures, they are produced in abundance. Snare production can also be induced by the addition to the fungus cultures of a little water in which sterile nematodes have remained for a short time.

T.G.

(318f) Comandon & Fonbrune, by means of microculture methods, have investigated the process whereby the ring-like snares of *Dactylaria brochaphaga* and *Dactylella bembicodes* capture nematodes. Each snare consists of 3 cells placed end to end and when a nematode enters a ring, or is introduced by means of a micro-pipette, and lightly strikes against the inner wall, the 3 cells suddenly enlarge inwards and grip the worm. By cinematographic methods they show that the enlargement of the 3 cells is due to a sudden increase in the size of the cell vacuoles. The cuticle of a captured nematode is quickly ruptured by an invading plug of hypha, from which further hyphae rapidly grow into the body contents and destroy them.

T.G.

(318g) Comandon & Fonbrune deal with the manner in which nematodes are captured by the 3 fungi: *Dactylella ellipsospora*, *Arthrobotrys oligospora* and *Stylopaga hadra*. The first captures by means of minute spheres of an extremely adhesive substance occurring on the hyphae to which nematodes

become firmly attached. Nematodes only are caught in this manner, but not all kinds of nematodes are susceptible to this means of capture. The second has looped meshes which are adhesive on their inner surface and nematodes quickly become firmly attached. Cinematographic methods reveal that when a snare is lightly struck on the inside with a blunt micro-needle, there is intense activity in the protoplasmic granules in the immediate vicinity of the spot struck. The third has no special organs of capture, but the surface of its hyphae, at a certain stage of growth, is very sticky and by this means certain nematodes, but not all kinds, are captured. Secretion of the gluey substance is accompanied by great protoplasmic activity. T.G.

(318h) Moricard & Tsatsaris describe a new apparatus by means of which it is possible to perform microdissection, view the operation and at the same time film the process on 16 mm. film, and describe the method of working the apparatus. They record the filming of the development of the eggs of *Ascaris*, and the puncture of the oocyte of the mouse. A brief description of the results obtained is given. D.W.F.

(318i) Vanni has examined the effects of injections of coelomic fluid of *Ascaris* in sensitive rabbits, and finds that the symptoms first described by Sanarelli are produced. These include haemorrhagic allergy with cutaneous and visceral symptoms. Of the 10 rabbits so treated, 3 gave a reaction. Vanni suggests that the reaction shown by humans who are sensitive to *Ascaris* is due to an allergic response and not to the directly toxic action of the coelomic fluid. P.A.C.

319—Contributions from the Biological Laboratories of Knox College.

- a. WALTON, A. C., 1938.—“The trematodes as parasites of Amphibia. List of parasites.” No. 61, 64 pp.
- b. WALTON, A. C., 1938.—“The trematodes as parasites of Amphibia. List of hosts.” No. 62, 24 pp.
- c. WALTON, A. C., 1938.—“The trematodes as parasites of Amphibia. Bibliography.” No. 63, 31 pp.

320—Cornell Veterinarian.

- a. LEVINE, P. P., 1938.—“Studies on the control of the poultry cestode *Davainea proglottina* (Dav.).” 28 (3), 220-227.
- b. BRITTON, J. W., 1938.—“Studies on the normal variations in the strongyle egg counts of horse feces.” 28 (3), 228-239.

(320a) Levine has been unable to find a drug which will remove *Davainea proglottina* from chickens. Slugs carrying the cysticercoid were able to survive a considerable degree of cold. P.A.C.

(320b) Britton, using Stoll's dilution method of faecal examination, shows from weekly examinations of several groups of horses that the egg output fluctuates from month to month, and is correlated with environmental conditions. He also shows variations which are not related to atmospheric conditions. From a mixed artificial infection given to one horse it is concluded that maximum egg production is reached 5 months after ingestion of larvae. J.W.G.L.

321—Cyprus Agricultural Journal.

- a. GAMBLES, R. M., 1938.—“Diseases of cattle, with special reference to Cyprus.” 33 (3), 80-85.

(321a) In Cyprus the only adult helminths common in cattle are *Gongylonema pulchrum* and *Dictyocaulus viviparus*. *Cysticercus bovis* is responsible for condemnation of a large amount of beef annually. R.T.L.

322—Dermatologische Wochenschrift.

- a. NEUMARK, S., 1938.—“Zur Kenntnis der Pathogenese der generalisierten exfoliativen Erythrodermie nach Einnahme von Extr. fil. maris.” 106 (12) 331-338.

(322a) Neumark reports a severe case of generalized exfoliative erythrodermia following upon administration of 15 capsules of male fern extract for the removal of a tapeworm. The condition is considered to be of allergic rather than toxic origin. A.E.F.

323—Deutsche Tierärztliche Wochenschrift.

- a. MANNINGER, R. & KOTLÁN, A., 1938.—“Einfluss der Aufzucht, Ernährung und Haltung der Tiere auf die Entstehung, die Entwicklung und den Verlauf der Infektions- und parasitären Krankheiten der Haustiere. II. Parasitäre Krankheiten.” 46 (41), 641-644.
- b. SCHMID, F., 1938.—“Therapie der parasitären Krankheiten der Haustiere.” 46 (48), 760-762.
- c. LÜTJE, 1938.—“Leberegelerkrankungen beim Reh im Regierungsbezirk Stade.” 46 (49), 769-772.
- d. SPIEGL, A., 1938.—“Die Magenwurmseuche der Schafe als Aufzucht-krankheit und die bei der Bekämpfung dieser Seuche im Jahre 1937 gesammelten Erfahrungen.” 46 (49), 777-779.
- e. SCHMID, F., 1938.—“Parasitäre Aufzucht-krankheiten und ihre Bekämpfung.” 46 (50), 785-787.
- f. LICHTENSTERN, G., 1938.—“Klinik und Therapie der Strongylose der Pferde.” 46 (50), 787-789.
- g. WETZEL, R. & ENIGK, K., 1938.—“Die Entwicklungsdauer des Pferdespulwurmes (*Parascaris equorum*) im Esel.” 46 (51), 806-807.

(323a) [For abstract of this paper see above No. 313a.]

(323b) Schmid summarizes the anthelmintics in use today against the common helminths of domestic animals. Notes are given on precautionary measures necessary before and after dosing. K.S.

(323c) Liver-fluke disease is by no means uncommon in roe-deer in the Stade district, according to Lütje, and attacks fully grown deer as well as young. In 42 adult cases of death, fluke was regarded as responsible in 9, lungworm in 8, and the two jointly in 5; they were also present in 11 traumatic cases. The fluke is *Fasciola hepatica*, which is common locally in cattle, sheep and pigs, whereas *Dicrocoelium* is not found. After discussing pathology and symptomatology, Lütje concludes that control and treatment are useless save through a planned campaign involving the treatment, in any one area, of all domestic ruminants, and the systematic extermination of the intermediary. B.G.P.

(323d) Spiegl describes methods adopted to control stomach worm disease in sheep in Saxony. Conditions during the previous autumn and winter pointed to the possibility of severe outbreaks during the summer of 1937. Extensive faecal examinations were therefore carried out, and the degree and nature of the infection established, before symptoms of disease were apparent. Treatment, which was extended to every animal in infected flocks, consisted mainly of administration of "Sprehn's tablets." Results were entirely satisfactory, and in the majority of flocks there were no losses at all. A.E.F.

(323e) Schmid points out that measures adopted to breed young animals comparatively free from parasites must take into consideration the condition of stock as a whole, as it is the adult parasite-carriers which provide the source of infection for the young. He enumerates the most important parasites of domestic animals and briefly describes the diseases they cause. The measures proposed for the control of parasites include (i) thorough cleansing and disinfection of stalls, (ii) more frequent changes of straw, (iii) separate pastures for young animals, and (iv) treatment of young infected animals. A.E.F.

(323f) Lichtenstern distinguishes 5 phases of strongylosis in the horse, from very light to very severe infection, and gives the symptoms and pathology of each phase. Treatment should be primarily concerned with the correction of faulty feeding (poor hay leads to avitaminosis-K, a condition predisposing to internal haemorrhages owing to low prothrombin-content of the blood) and with the elimination of factors leading to liver injury. The destruction of the parasites is considered to be only of secondary importance; for this, intravenous injections of a mixture of hexachlorethane and oil of turpentine in a proportion of 1 : 10 is recommended. Oral administration of dried ox gall is stated to have a beneficial effect on the liver. A.E.F.

(323g) By infecting an 83-day-old worm-free ass, born of a worm-free mother, with 100 infective eggs of *Parascaris equorum*, and minimizing any chances of accidental infection, Wetzel & Enigk have established the prepatent period for infections with this worm as being 81 days. The symptoms accompanying the infection are described and the authors compare their results with those obtained by previous workers, and suggest that the longer period established by them might be due to the lighter infection given. D.W.F.

324—Difesa Sociale.

- a. VANNI, V., 1938.—"Le malattie parassitarie nell'attuale medicina preventiva italiana." 17 (2), 135-139.

325—Duodecim.

- *a. VÄISÄNEN, V., 1938.—[Presence of parasitic worms in appendix.] 54, 176-184.

326—Edinburgh Medical Journal.

- a. BLOCH, E., 1938.—"Benign intrathoracic tumours; with notes on 2 cases." [Hydatidosis of the lung.] 45 (5), 357-362.

* Original not available for checking or abstracting.

327—Empire Journal of Experimental Agriculture.

- a. FRASER, A. H. H., THOMSON, W., ROBERTSON, D. & GEORGE, W., 1938.—“The influence of the nutritional condition of lambs on their susceptibility to an artificial infestation with parasitic nematodes.” 6 (24), 316-322.
- b. TAYLOR, E. L., 1938.—“Parasitic diseases of farm animals.” 6 (24), 377-384.

(327a) Fraser and his co-workers found that ill-fed lambs harboured a far greater number of stomach worms after an artificial infestation than well-fed lambs. Over 28,000 infective larvae of sheep nematodes were administered to 2 groups of 20 parasite-free lambs over a period of 2 months and when these lambs were slaughtered the ill-fed group gave an average worm count of: *Ostertagia* 229, *Haemonchus* 81 and *Trichostrongylus axei* 0, while in the well-fed group the count was *Ostertagia* 11, *Haemonchus* 2 and *T. axei* 0.

D.O.M.

(327b) Taylor considers that diseases due to parasites are the most economically important of all affecting grazing animals and that they prevent the achievement of maximum animal population through grassland farming. Overstocking frequently results in outbreaks of parasitic disease since it upsets the balance between the grazing animal and its parasites, but there are numerous other factors, apart from the number of sheep per acre, which influence the increase of parasites beyond the level tolerated by the host. Among such factors are those bearing on the resistance of the host and those acting directly on the larval stages in the pastures.

D.O.M.

328—Entomology Memoirs. Department of Agriculture and Forestry, Union of South Africa.

- a. VAN DER LINDE, W. J., 1938.—“A contribution to the study of nematodes.” 2 (3), 40 pp.

(328a) Van der Linde describes and figures a number of nematodes collected from around the roots of various plants. The following are new forms: *Achromadora pseudomicoletzkeyi* n. sp., *Diplogaster subamericanus* n. sp., *Cuticularia mathesoni* n. g., n. sp., *Archionchus pseudoperplexans* n. sp., *Funaria thornei* n. g., n. sp., *Dorylaimus minimus* var. *longus* n. var., *D. dreyeri* n. sp., *D. minsi* n. sp., *D. reynecki* n. sp., *D. renwicki* n. sp., *D. albionensis* n. sp., *Aphelenchoides elniraensis* n. sp., *A. oswegoensis* n. sp., *Anguillulina incognata* n. sp., *Paratylenchus curvifata* n. sp., and *Tylencholaimus cornelli* n. sp.

T.G.

329—Farmers Weekly.

- a. BYWATER, H. E., 1938.—“‘Husk’ in pigs.” 9 (16), p. 26.

330—Fortschritte auf dem Gebiete der Röntgenstrahlen.

- a. FRIEDRICH, H. & VEIEL, E., 1938.—“Röntgendiagnose des *Echinococcus alveolaris*.” 57 (4), 366-374.

331—Frankfurter Zeitschrift für Pathologie.

- a. BEHN, F., 1938.—“Echinokokken, Statistik des Pathologischen Instituts der Universität Concepción (Chile) mit besonderer Berücksichtigung eines Falles von tödlicher Piablutung durch *Echinococcus hydatidosus*. (VIII. Beitrag zur geographischen Pathologie Chiles.)” 51 (3), 535-538.

332—Gaceta Medica de Caracas.

- a. GÓMEZ LOPEZ, L. & LUNA, G., 1938.—“Un caso de quiste hidatídico del pulmón.” 45 (13), 193-195.
 b. RISQUEZ IRIBARREN, R., 1938.—“Quiste hidatídico en Venezuela.” 45 (13), 195-197.

333—Gazette Médicale de France.

- *a. STEFANOPOULO, G. J. & PAYET, M. I., 1938.—“Les principales filarioses et leur diagnostic biologique.” 45, 319-331.

334—Geneeskundig Tijdschrift voor Nederlandsch-Indië.

- a. MARSEILLE, A., 1938.—“Over het voorkomen van dierlijke darmparasieten bij de bevolking van een stadskampong te Batavia.” 78 (39), 2371-2375.

(334a) Marseille has examined for intestinal parasites 555 faecal specimens from a native kampong in Batavia, and has compared his findings with those of Flu (1918) and Brug (1920). If differences in technique are disregarded, hookworm incidence shows a statistically significant diminution from 20% to 11%, whereas ascaris and trichuris infections do not. This suggests that “faecal contact” has remained much the same, the fall in hookworm incidence being largely ascribable to treatment and to improved drainage.
 B.G.P.

335—Guy's Hospital Reports.

- a. BROCK, R. C., 1938.—“A case of hydatid cyst of the lung: successful removal.” 88 (1), 82-91.

336—Indian Journal of Veterinary Science and Animal Husbandry.

- a. SRIVASTAVA, H. D., 1938.—“A new trematode—*Prosthogonimus indicus* n. sp.—occurring in the oviduct of Indian fowls, with remarks on ‘prosthogonimiasis’.” 8 (3), 213-220.
 b. MUDALIAR, S. V. & IYER, K. S. G., 1938.—“*Pseudanoplocephala crawfordi* Baylis, 1927.” 8 (3), 235-237.
 c. SRIVASTAVA, H. D., 1938.—“Studies on the helminth parasites of Indian poultry, Part II. The occurrence of gapeworm in fowls.” 8 (3), 239-241.
 d. SRIVASTAVA, H. D., 1938.—“A new parasite of the family Acanthocolpidae Lühe, 1909, from an Indian host.” 8 (3), 247-248.
 e. SRIVASTAVA, H. D., 1938.—“The occurrence of an unrecorded filarid nematode, *Onchocerca cervicalis* Railliet and Henry, 1910, in the ligamentum nuchae of horses in India.” 8 (3), 249-250.
 f. RAO, M. A. N., 1938.—“*Micipsella indica* n. sp.” 8 (3), 251-253.
 g. SRIVASTAVA, H. D., 1938.—“The occurrence of *Paragonimus westermani* in the lungs of cats in India.” 8 (3), 255-257.

* Original not available for checking or abstracting.

- h. SRIVASTAVA, H. D., 1938.—“Studies on the gasterostomatous parasites of Indian food-fishes.” 8 (4), 317-340.
- i. SRIVASTAVA, H. D., 1938.—“Studies on the amphistomatous parasites of Indian food-fishes. Part I. Two new genera of amphistomes from an Indian fresh-water fish, *Silundia gangetica* Cuv. and Val.” 8 (4), 367-374.
- j. SRIVASTAVA, H. D., 1938.—“A study of the life-history and pathogenicity of *Cotylophoron cotylophorum* (Fischöeder, 1901) Stiles and Goldberger, 1910, of Indian ruminants and a biological control to check the infestation.” 8 (4), 381-385.
- k. SRIVASTAVA, H. D., 1938.—“A new gorgoderid trematode from the urinary bladder of an Indian migratory fish, *Belone strongylura*.” 8 (4), 391-393.
- l. SRIVASTAVA, H. D., 1938.—“Studies on the amphistomatous parasites of Indian food-fishes. Part II. A new trematode of the genus *Gyliauchen* Nicoll from an Indian marine fish.” 8 (4), 399-401.
- m. SRIVASTAVA, H. D., 1938.—“New allocreadiids (Trematoda) from Indian marine food-fishes. Part III. *Pedunculacetabulum pedicellata* n. sp. from the gut of *Chiloscyllium indicum*.” 8 (4), 403-405.

(336a) *Prosthogonimus indicus* n. sp. is recorded from the domestic fowl in the Indian plains. The literature of prosthogonimiasis is reviewed. Owing to the presence of this group in migratory birds and the lack of marked host specificity, the author considers the problem of prevention exceedingly difficult. R.T.L.

(336b) *Pseudanoplocephala crawfordi* is described from museum material. It appears to be a fairly common tapeworm in domestic pigs in South India. R.T.L.

(336c) Specimens of *Syngamus trachea* were recovered from 2 chickens at Bareilly in India. R.T.L.

(336d) *Echinostephanus cloacum* n. sp. is a common trematode in the food fish, *Latex calcarifer*, in the Arabian Sea and the Bay of Bengal. This species is distinguished by the number and arrangement of the oral spines. R.T.L.

(336f) The males and females of the filariid worm, *Micipsella indica* n. sp., from the portal veins of *Lepus nigricollis* in the North Arcot district, Madras, are described. A table differentiates it from *M. numidica*. R.T.L.

(336g) *Paragonimus westermanni* is recorded from cats in India for the first time. R.T.L.

(336h) Srivastava describes the following new gasterostomes: *Bucephalus indicus* n. sp., *B. gangeticus* n. sp., *B. barina* n. sp. (there is a key to 11 species of *Bucephalus*); *Bucephalopsis belonea* n. sp., *Prosorhynchus manteri* n. sp., *P. arabiana* n. sp. The genus *Gotonius* is lowered into synonymy with *Prosorhynchus*. E.M.S.

(336i) The new amphistomes from *Silundia gangetica* are: *Nicollodiscus gangeticus* n. g., n. sp., characterized by a very large, terminal papillate acetabulum occupying the entire base of the cone-shaped body; *Orientodiscus lobatum* n. g., n. sp., and *O. jumnai* n. sp., whose excretory systems consist of a pair of collecting tubes looped around the intestinal caeca, and opening into a small round bladder. E.M.S.

(336j) Acute amphistomiasis due to *Cotylophoron cotylophorum* is common in Indian sheep and goats. The larval stages in *Indoplanorbis exustus*

are described. The encysted cercariae can remain viable for 4 months. Experimentally infected animals are dull, weak and anaemic, show general unthriftiness with persistent foetid diarrhoea. The duodenum and intestine contain haemorrhagic fluid, the intestinal mucosa is markedly thickened and necrotic. The faeces often contain large numbers of immature amphistomes. Recovery follows the migration of the young amphistome from the duodenum to the rumen where they are practically non-pathogenic. R.T.L.

(336k) *Phyllodistomum lewisi* n. sp., from the bladder of *Belone strongylura*, has 3 pairs of feebly muscular, semi-circular puckering on the lateral surfaces of the hind-body. E.M.S.

(336l) *Gyliauchen ozakii* n. sp. is described from the intestine of *Harpodon nehereus* from the Arabian Sea. E.M.S.

337—Indian Medical Gazette.

- a. GHOSE, A. K., 1938.—“A case of *Ascaris lumbricoides* infection simulating cerebral type of malaria.” 73 (10), p. 614.
- b. GANGOLLI, D. A., 1938.—“A case of tape-worm simulating acute appendicitis.” 73 (11), p. 681.
- c. MITRA, P. N., 1938.—“Filariasis in the Mikir Hills.” 73 (12), p. 740.

(337c) Clinical filariasis in man is rarely seen in Assam. Well-marked cases of elephantiasis of the legs and scrotum and enlarged glands occur in the Mikirs who live in the Sibsagar District in Golaghat. The microfilariae are those of *Filaria bancrofti*, whereas those in the North Cachar Hills belong to *F. malayi*. R.T.L.

338—Indian Veterinary Journal.

- a. MUDALIAR, S. V., 1938.—“A description of the trematode, *Echinochasmus narayani* n. sp., with a comparison of some of the known species of the genus.” 15 (2), 109-114.
- b. NARAINSWAMY NAIDU, P. M., 1938.—“Some common diseases of poultry in Mysore and how to deal with them.” 15 (2), 122-129.

(338a) *Echinochasmus narayani* n. sp. from *Milvus migrans govinda* is differentiated by small size, range of yolk glands and notched testes. R.T.L.

339—International Journal of Leprosy.

- a. CHATTERJI, S. N., 1938.—“Filarial manifestations simulating leprosy.” 6 (1), 74-76.

340—Japanese Journal of Experimental Medicine.

- a. AKETAGAWA, H., 1938.—“Some experimental contributions on oral and cutaneous infection of hookworms.” 16 (2), 85-107.
- b. ISHII, N. & SAWADA, T., 1938.—“Studies on the ectoparasitic trematodes. (III).” 16 (3), 239-249.

(340a) Aketagawa has infected rats, rabbits, and dogs of different ages with large numbers of dog hookworms by the oral route, and determined the distribution of the larvae in the host's body at various times up to 4 days after

infection. Development rarely proceeds in the intestine without migration first to other organs, particularly the wall of the stomach and intestine. The percentage of larvae surviving for 10 days varies from over 90% in puppies of 3 months and under, through 30% in dogs of 1 to 4 years, to about 3.7% in dogs of 7 to 8 years. Larvae fed to pregnant bitches infect the fetuses in considerable numbers, being concentrated in the lungs, but these larvae apparently do not proceed with their development.

B.G.P.

(340b) 22 species of ectoparasitic trematodes have been collected over a period of years, of which 6 new ones from the gills of fishes are described, viz., *Epibdella madai* n. sp., *Encotyllabe masu* n. sp., *Axine inada* n. sp., *Microcotyla* [= *Microcotyle*] *suzuki* n. sp., *M. ichimidai* n. sp., and *M. inada* n. sp.

E.M.S.

341—Japanese Journal of Zoology.

- a. YAMAGUTI, S., 1938.—“Studies on the helminth fauna of Japan. Part 24. Trematodes of fishes, V.” 8 (1), 15-74.

(341a) Yamaguti describes 49 species of fish trematodes, including the following new ones: MONOGENEA, GYRODACTYLIDAE: *Ancyrocephaloides triacanthi* n. g., n. sp., *Parancyrocephaloides daicoci* n. g., n. sp., *Diplectanum epinepheli* n. sp.; OCTOCOTYLIDAE: *Discocotyle dorosomatis* n. sp., *Pseudocotyle dorosomatis* n. g., n. sp., *Cyclobothrium semicossyphi* n. sp., *Rajoncocotyle kenojei* n. sp.; MICROCOTYLIDAE: *Microcotyle tai* n. sp., *Thoracocotyle coryphaenae* n. sp.; the genus *Axine* is divided into 3 subgenera, *Axine*, *Heteraxine*, and *Axinoides*, with 2 new species, *A. (Axine) constricta* n. sp., and *A. (Axinoides) tylosuri* n. subg., n. sp. The DIGENEA include *Hirudinella spinulosa* n. sp., *Bathycotyle coryphaenae* n. sp., *Syncoelium katurwo* n. sp., and the following members of the DIDYMOZOIDAE: *Didymozoon brevicolle* n. sp., *D. branchiale* n. sp., *D. spirale* n. sp., *D. koti* n. sp., *Didymocystis alalongae* n. sp., *D. opercularis* n. sp., *D. abdominalis* n. sp., *D. submental* n. sp., *D. dissimilis* n. sp., *D. acanthocybii* n. sp., *D. miliaris* n. sp., *Platocystis alalongae* n. g., n. sp., *Coeliotrema thynni* n. g., n. sp., *Diploctrema pelamydis* n. g., n. sp., *Metanematobothrium* n. g. for *Nematobothrium guernei* Moniez, 1891, *Gonapodasmius pacificus* n. sp., *Paragonapodasmius managatuwo* n. g., n. sp. *Nematobothrium pristipomatis* is transferred to *Gonapodasmius*.

E.M.S.

342—Journal of Agricultural Research.

- a. LUCKER, J. T., 1938.—“Vertical migration, distribution, and survival of infective horse strongyle larvae developing in feces buried in different soils.” 57 (5), 335-348.
 b. ANDREWS, J. S., 1938.—“Effect of infestation with the nematode *Cooperia curticei* on the nutrition of lambs.” 57 (5), 349-361.
 c. BARRONS, K. C., 1938.—“A method of determining root knot resistance in beans and cowpeas in the seedling stage.” 57 (5), 363-370.

(342a) Lucker describes his soil container and method used for studying the development of horse strongyle eggs in faeces buried to various depths in different types of soil. Statistical analysis of results show that migration of the resulting larvae to the surface was significantly affected by soil type and by depth of burial.

J.W.G.L.

(342b) Andrews, using specially constructed pens which allowed the accurate collection of urine and faeces and the recording of the amount of food consumed, set out to discover experimentally the nutritional effect of moderately heavy infections in sheep with the comparatively non-pathogenic nematode, *Cooperia curticei*. Four control and four experimental lambs were used; the controls at the termination of the experiment harboured no *C. curticei*, but both control and experimental animals were found to harbour small numbers of *Strongyloides papillosus* and *Nematodirus spathiger*. Infection with *C. curticei* did not cause a depression of the digestibility of the crude-protein and crude-fibre components of the ration, nor was there found to be a decreased storage of calcium and phosphorus in infected lambs. No support was forthcoming for the theory of the production of excess quantities of anti-enzymes by the parasites. The effect of infection, however, was readily demonstrated by a significant reduced gain in weight by the infected lambs, due probably to increased energy metabolism. J.W.G.L.

(342c) Barrons describes an inexpensive and accurate method of determining root knot resistance in the seedling stage of beans and cowpeas under controlled greenhouse conditions. Plantings were made in a raised greenhouse bench 4 inches deep kept under favourable conditions of moisture and temperature, chopped up root galls from adult bean and tomato plants formed the inoculum and this was applied in furrows beneath the seed at the rate of 50 g. per metre. Rows were spaced 4 inches apart, seeds 2 inches apart. Classification of results could best be made between 20 and 30 days after planting, and plants could be divided into 5 classes on the basis of their root knot resistance. M.J.T.

343—Journal of the American Veterinary Medical Association.

- a. BOURNE, R. F., 1938.—“The use of Babcock cream test bottles in the flotation of parasite eggs.” 93 (4), 261-262.
- b. BRITTON, J. W., 1938.—“A note on a case of erraticism in *Strongylus equinus*.” 93 (5), 329-330.
- c. DOUGLAS, J. R., 1938.—“A survey of canine thelaziasis in California.” 93 (6), 382-384.

(343a) Bourne points out that veterinary practitioners who have not access to a laboratory centrifuge for concentrating parasite eggs can make use of the Babcock centrifuges used in testing milk. B.G.P.

(343b) Britton records the finding of 3 almost mature larvae of *Strongylus equinus* in 3 separate nodules in the gastric mucosa of a nine-year-old range stallion from Winnemucca, Nevada. J.W.G.L.

(343c) The distribution in California of *Thelazia*, a parasite of the eye of the dog, was found by Douglas to be more widespread than hitherto recorded. A questionnaire sent to 197 veterinarians resulted in 12 reporting no cases and 20 reporting a total of 39 cases. These cases show that the disease is noted mostly in the winter and spring and that *Thelazia* is widely distributed in California, especially in wild areas. J.W.G.L.

344—Journal of the Department of Agriculture. Dublin.

- a. ANON, 1938.—“Diseases of poultry. Gapes.” 35 (2), 245-249.

(344a) The author gives a popular account of the life-history of *Syngamus trachea* and of the symptoms produced by its presence. As there is no effective treatment for the disease, he emphasizes that more value should be attached to preventive measures.

P.A.C.

345—Journal of the Egyptian Medical Association.

- a. MAKAR, N., 1938.—“On filariasis of the intrascrotal structures.” 21 (11), 682-715.
b. MAINZER, F., 1938.—“Clinical aspects of pulmonary diseases induced by *Schistosoma haematobium* and *mansoni*.” 21 (12), 762-795.

(345b) Mainzer deals especially with the clinical aspects of Bilharzia invasion of the lungs. He draws attention to the striking discrepancy between the smallness of the clinical findings on percussion and auscultation and the intense lung changes revealed by X-rays. Pulmonary cirrhosis may persist after the worms have been killed by specific therapy.

R.T.L.

346—Journal of Helminthology.

- a. PETERS, B. G., 1938.—“Biometrical observations on shells of *Limnaea* species.” 16 (4), 181-212.
b. PETERS, B. G., 1938.—“Habitats of *Limnaea truncatula* in England and Wales during dry seasons.” 16 (4), 213-260.

(346a) In differentiating shells of *Limnaea truncatula* from those of related species, Peters finds that the ratio of total length to length of body whorl is biometrically the best of the simple ratios but is nevertheless unsatisfactory in being closely correlated with total length. Ratios of logarithms of dimensions are only slightly so correlated, and are preferable.

B.G.P.

(346b) Peters discusses the characteristics of 22 varied habitats of *Limnaea truncatula* in England and Wales, as observed during dry seasons. A provisional map showing the present distribution of *Fasciola hepatica* disease in that area is appended, and the view that fluke has ceased to be a disease of importance is attacked on the grounds that its recent low incidence is due to a temporary scarcity of the intermediary.

B.G.P.

347—Journal of Immunology.

- a. CAMPBELL, D. H., 1938.—“The specific protective property of serum from rats infected with *Cysticercus crassicolis*.” 35 (3), 195-204.
b. CAMPBELL, D. H., 1938.—“The specific absorbability of protective antibodies against *Cysticercus crassicolis* in rats and *C. pisiformis* in rabbits from infected and artificially immunized animals.” 35 (3), 205-216.

(347a) Rats infected with *Cysticercus crassicolis* develop antibodies, and Campbell finds that in the first fortnight following infection the quantity of antibody produced varies with the severity of the infection. However, one month after infection all sera have the same resistance value. He has some

evidence that the early immunity is not dependent on the same antibody as the later immunity. The first one, developed in the first weeks after infection, acts on unencysted larvae while that formed later can act on larvae which have encysted, and cause their destruction. P.A.C.

(347b) Campbell produces further evidence that two different antibodies are produced by rats infected with *Cysticercus crassicolis* [see previous abstract]. One is occasioned by the early developing larvae and this remains in the serum and is not absorbable by specific whole parasite material *in vitro*. The later formed antibody, which acts against encysted larvae, is absorbed by whole worm material when introduced parenterally. P.A.C.

348—Journal of Infectious Diseases.

- a. EVANS, jr., C. H., 1938.—"Trichinosis in Cleveland. Postmortem examination of diaphragm and skeletal muscle from 100 consecutive autopsies." 63 (3), 337-339.

349—Journal of Laboratory and Clinical Medicine.

- a. SCHENKEN, J. R. & MOSS, E. S., 1938.—"*Trichostrongylus colubriformis* in the human appendix. Report of a case in Louisiana." 24 (1), 15-17.

350—Journal of the Malaya Branch of the British Medical Association.

- a. RAJAHAM, S. G., 1938.—"A case of abscess of the liver due to *Ascaris lumbricoides*." 2 (2), p. 103.

351—Journal of the Mount Sinai Hospital.

- a. VERMOOTEN, V., 1938.—"Operative treatment for ureteral stricture due to Bilharzia. With a case report." 4 (6), 574-578.

352—Journal of Parasitology.

- a. BYRD, E. E. & DENTON, J. F., 1938.—"New trematodes of the subfamily Reniferinae, with a discussion of the systematics of the genera and species assigned to the subfamily group." 24 (5), 379-401.
- b. WELLER, T. H., 1938.—"Description of *Rhabdochona ovifilamenta* n. sp. (Nematoda: Thelaziidae) with a note on the life history." 24 (5), 403-408.
- c. HORSFALL, M. W., 1938.—"Observations on the life-history of *Raillietina echinobothrida* and of *R. tetragona* (Cestoda)." 24 (5), 409-421.
- d. LEVINE, P. P., 1938.—"Observations on the biology of the poultry cestode *Davainea proglottina* in the intestine of the host." 24 (5), 423-431.
- e. SAWITZ, W., 1938.—"Echinococcus infection in Louisiana." 24 (5), 437-439.
- f. BRAND, T. VON 1938.—"Physiological observations on a larval *Eustrongylides* (Nematoda)." 24 (5), 445-451.
- g. WHITLOCK, J. H. & LEASURE, E. E., 1938.—"A preliminary report on the influence of hydrogen-ion concentration upon the longevity of *Strongylus vulgaris* (Looss, 1900) *in vitro*." 24 (5), p. 469.
- h. MCCOY, E. E., GIRTH, H. B. & GLASER, R. W., 1938.—"Notes on a giant form of the nematode *Neoaplectana glaseri*." 24 (5), 471-472.
- i. HERBER, E. C., 1938.—"Schistosome dermatitis in dogs." 24 (5), 474-475.

- j. HUNTER, III, G. W. & HUNTER, W. S., 1938—"Studies on host reactions to larval parasites. I. The effect on weight." **24** (6), 477-481.
- k. PHILIP, C. B., 1938—"A parasitological reconnaissance in Alaska with particular reference to varying hares. II. Parasitological data." **24** (6), 483-488.
- l. PAUL, A. A., 1938—"Life history studies of North American fresh-water polystomes." **24** (6), 489-510.
- m. BRITTON, J. W., 1938—"The rate of egg production of *Strongylus equinus* and *Strongylus vulgaris* as measured by egg counts and qualitative larval cultures." **24** (6), 517-520.
- n. STOLL, N. R., 1938—"Tapeworm studies. VII. Variation in pasture infestation with *M. expansa*." **24** (6), 527-545.
- o. HERBER, E. C., 1938—"On the mother redia of *Diplodiscus temperatus* Stafford, 1905." **24** (6), p. 549.
- p. LEVINE, P. P., 1938—"The effect of infection with *Davainea proglottina* on the weights of growing chickens." **24** (6), 550-551.
- q. SWARTZWELDER, J. C., 1938—"A survey of the intestinal parasites of medical students." **24** (6), 552-553.
- r. STUNKARD, H. W., 1938—"Oochoristica parvula n. nom. for Oochoristica parva Stunkard, 1938, preoccupied." **24** (6), p. 554.
- s. AMERICAN SOCIETY OF PARASITOLOGISTS, 1938—"Program and abstracts of the 14th Annual Meeting of the American Society of Parasitologists, Richmond, Virginia, December 28, 29 and 30, 1938." **24** (6), Supplement, 42 pp.

(352a) Byrd & Denton have attempted to clear up the confusion of the subfamily Reniferinae by allocating many species to the genus whose type species they most nearly resemble. For species which were "left over" after this re-arrangement, 2 new genera have been provided; *Neorenifer* n. g., type *N. orula* (Talbot), for forms whose genital pore is not median, and is at level of pharynx or oral sucker; and *Paralechriorchis* n. g., type *P. syntomentera* (Sumwalt), for forms possessing a short cirrus sac reaching only to the acetabulum, and a powerful metratrem as long as the cirrus sac. The subfamily is restricted to these 2 genera and *Renifer*, *Lechriorchis*, *Zeugorchis*, *Pneumatophilus*, *Dasymetra* and *Natriodera*. New species are:—*Renifer magnus* n. sp., *R. laterotrema* n. sp., *Lechriorchis abduzens* n. sp., *Neorenifer glandularis* n. sp., *N. drymarchon* n. sp., *N. georgianus* n. sp., and *N. heterodontis* n. sp. E.M.S.

(352b) In *Hyaella knickerbockeri* first stage larvae were obtained experimentally from the embryonated eggs of *Rhabdochona ovifilamenta* n. sp. in perch in Michigan. R.T.L.

(352c) Horsfall finds that *Raillietina echinobothrida* and *R. tetragona* are carried in the United States by ants of the species *Tetramorium caespitum* and *Pheidole vinelandica*. Though she has seen worker ants carry away ripe proglottids of the cestodes, she has been unable to bridge the gap between the egg stage and the cysticercoid in the ant. She suggests that the ants become infected as larvae and that the parasite develops during the larval and pupal stages. The evidence for this is that though ants are active from March till the end of the year, yet infected forms are never found before June. It is possible to differentiate the two species of cysticercoid by an examination of the numbers of rows of hooks and by their size and number. P.A.C.

(352d) Levine shows that the rate of development of *Davainea proglottina* in the chicken is not uniform and is dependent in part at least on the nutritive value of the food fed to the host. Under optimum conditions each cestode is capable of producing one gravid segment per day and these tend to be discharged regularly at certain times of the day. They tend to be passed during the night in summer months and in the afternoon during the winter so that the slugs, the intermediate hosts, being nocturnal in habits, have opportunity of picking up eggs which have not been exposed to sunlight. It is possible to shift the time of segment discharge by altering feeding hours. P.A.C.

(352f) Von Brand has carried out experiments *in vitro* on *Eustrongylides* obtained from the fish *Fundulus heteroclitus*. Determinations of glycogen consumption under aerobic and anaerobic conditions indicated that the metabolism of this species resembled that of free-living forms rather than that of intestinal parasites. The worms remained alive for long periods in saline or nutritive media over the wide temperature range of 4 to 37°C. The survival was longer when the experiments were carried out under sterile conditions. Evidence is presented which suggests that the haemoglobin found in the body fluid was a true constituent of the body. The glycogen content of the worms remained constant even when the host starved for 65 days. R.H.H.

(352g) *In vitro* experiments showed that *Strongylus vulgaris* placed in acidified Locke's solution (pH 4.0 to 5.4) for 12 hours, and then placed in neutral Locke's solution, lived a shorter time than the controls placed in neutral Locke's solution (pH 7.1). The graphs of the death rate both resembled logistic curves. J.W.G.L.

(352h) McCoy, Girth & Glaser describe giant forms of the nematode *Neoapectana glaseri*, from Japanese beetle larvae, measuring from 5 to 9 mm. long in contrast to the normal 4.7 mm. long. These forms have been found only in lightly infected beetle larvae, and their progeny grow into individuals of normal length. T.G.

(352i) Herber records a suspected case of naturally occurring schistosome dermatitis in a dog in Michigan, and also gives the clinical symptoms of an experimental skin infection in a 14-day-old mongrel with cercariae of *Schistosomium douthitti*. J.W.G.L.

(352j) The authors have investigated the effect of the presence of the metacercariae of *Crassiphiala ambloplitis* on the weight of young small-mouthed black bass, *Micropterus dolomieu*. The control uninfected fish were heavier than the others and the difference was statistically valid. As the infected fish were active and ate well, it is suggested that the loss in weight was due in part to disturbed metabolism. P.A.C.

(352k) The helminth parasites of the varying hare in Alaska, recovered by Philip after 172 post-mortem examinations, are *Taenia (Cysticercus) pisiformis*, *Cittotaenia pectinata americana*, and a single infection with *Passalurus nonannulatus*. From *Ovis dalli* came *T. hydatigena*; from *Gulo luscus*, *T. twitchelli*; from *Marmota caligata*, *Diandrya* sp.; and from *Ochotona collaris* came *Dermatoxys* sp. The only bird to yield a helminth was *Phalacrocorax auritus* which harboured *Contracaecum* sp. P.A.C.

(352l) Paul has established the existence of 2 types of life-cycle in the American subspecies *nearcticum*, as in the European form of *Polystoma integerrimum*. The normal direct development is in the bladder of the tree frogs, *Hyla versicolor* and *H. cinerea*, where the trematode reaches maturity in 3 years, and breeds at the same time as the host. Paul agrees that sexual hormones of the frog taken by the trematode as it feeds on the blood of its host, are probably responsible for this co-ordination. When, however, the larval trematode attacks a very young tadpole, it undergoes rapid development in the gill chamber, reaching maturity in 22 days, and producing eggs which then follow the normal course of development.

He also describes *Polystomoides oris* from the buccal cavity of the turtle, *Chrysemys picta*. The genus *Polystomoides* differs from *Polystoma* by (i) reptilian host, (ii) skeletalized suckers, (iii) no alternation of generations. The genital organs are shown to be an unsuitable means of separation, the gill form of *Polystoma integerrimum* being of the *Polystomoides* type. E.M.S.

(352m) Britton concludes from the examination of the faeces of 15 horses, and subsequent post-mortem examinations, that the average rates of egg production of *Strongylus vulgaris*, *S. equinus* and *S. edentatus* were respectively 1.8, 1.8 and 2.1 eggs per g. of faeces per adult female. Egg counts were performed by the Stoll method, and the percentages of the above mentioned species obtained by culturing the faeces and diagnosing samples of the resulting infective larvae. J.W.G.L.

(352n) Stoll has examined the infectivity of *Moniezia*-infected pastures over a period of 21 months and finds that the number of cestodes taken up was not influenced by the age of the sheep nor by their concentration on the pasture. Infection was prevented in the winter when grazing was limited and hay fed. Infection of the pasture increased at the beginning of the grazing season but decreased later when infected animals were removed. When such pastures were again grazed by infected animals, a period of some weeks followed before the pasture once again became infective. The degree of infection of sheep with *Moniezia* was found to be low—usually only one or two cestodes per sheep. He adds a note dealing with the experimental infection of lambs with *Moniezia*, using oribatid mites as vectors. P.A.C.

(352o) Herber has twice found mother rediae of *Diplodiscus temperatus* among masses of daughter rediae of the same species. They possess 2 pairs of appendages and a large intestine, and the body surface is annulated. They contain only daughter rediae, and no cercariae. E.M.S.

(352p) Levine shows that chickens infected with *Davainea proglottina* fail to grow as satisfactorily as uninfected controls. The weights of the control birds from the 35th day after the beginning of the experiment were statistically greater than those of the infected ones and continued so until the experiment was terminated on the 136th day after infection. From 3 of the infected birds, which had to be eliminated during the course of the experiment, the number of cestodes recovered was 5,617, 2,595 and 1,932 respectively. P.A.C.

(352s) Abstracts of certain papers are given. Those on helminthology are entitled: (i) E. C. Faust et al. "Comparative efficiency of various

technics for the discovery of protozoa and helminths in feces"; (ii) M. O. Nolan & L. Reardon "The presence of pinworm (*Enterobius vermicularis*) ova in household dust"; (iii) W. Sawitz, V. Odom & D. Lincicome "Comparative efficiency of the NIH anal swab and stool examination of brine and zinc sulphate flotation for *Enterobius* infection"; (iv) W. H. Wright & F. J. Brady "The treatment of oxyuriasis with an improved type of enteric-coated tablet"; (v) W. A. Hoffman & J. L. Janer "*Bufo marinus* as a vector of helminth ova in Puerto Rico"; (vi) J. H. Walker & C. G. Breckenridge "Preliminary report on the incidence of trichinosis in Alabama"; (vii) G. F. Otto "Studies on the protective power of serum from dogs actively immunized against *Ancylostoma caninum*"; (viii) J. A. Scott "Schistosomiasis in mountain valleys of Venezuela"; (ix) A. Giovannola "Schistosomiasis due to *Schistosoma mansoni* and its transmission in Ethiopia"; (x) W. H. Headlee "Notes on the incidence of human intestinal helminths in the State of Cojedes, Venezuela, South America"; (xi) E. E. Wehr "Domestic fowls as carriers of the poultry gapeworm"; (xii) J. E. Ackert & S. A. Edgar "Goblet cells and age resistance to parasitism"; (xiii) J. E. Ackert & A. A. Case "Effects of the tapeworm *Raillietina cesticillus* (Molin) on growing chickens"; (xiv) G. W. Luttermoser "Susceptibility of chickens to reinfection with *Raillietina cesticillus* as determined by the presence of the original terminal segment"; (xv) R. W. Glaser & N. R. Stoll "Sterile culture of the free-living and parasitic larval stages of *Haemonchus contortus*"; (xvi) P. D. Harwood, A. C. Jerstad & L. E. Swanson "The efficacy of phenothiazine for the removal of ascarids and nodular worms from swine"; (xvii) A. A. Case & J. E. Ackert "New intermediate hosts of the fowl tapeworm *Raillietina cesticillus* (Molin)"; (xviii) E. E. Wehr, P. D. Harwood & J. M. Schaffer "Barium antimonyl tartrate as a remedy for the removal of gapeworms from chickens"; (xix) J. S. Andrews "Hemorrhage as the cause of the fatal anemia associated with stomach worm infection in sheep"; (xx) O. R. Causey "Comparative study of the morphology and life history of two species of frog filaria"; (xxi) T. von Brand "The localization of glycogen in *Macracanthorhynchus hirudinaceus*"; (xxii) E. B. Cram & J. P. Folan "Intestinal helminths found in boys recently arrived in Washington, D.C., from various parts of the United States"; (xxiii) C. G. Dobrovolny "Embryology and life histories of some trematodes of the genus *Plagioporus*"; (xxiv) H. G. Kimpel "*Mazocraes cepedianum*, a new monogenetic trematode from a fresh-water fish"; (xxv) O. W. Olsen "Parasite studies on ring-necked pheasants, *Phasianus colchicus torquatus* (Gmelin) in Minnesota"; (xxvi) L. R. Penner "A hawk tapeworm which produces a proliferating cystericercus in mice"; (xxvii) H. J. van Cleave "Variability in hook measurement in the *Acanthocephala*"; (xxviii) W. W. Cort, D. B. McMullen & L. Olivier "Larval trematode infection in juveniles of *Physa parkeri* Currier"; (xxix) C. G. Dobrovolny "Host-parasite relationship of larval trematodes in oligochaete worms"; (xxx) S. H. Hopkins "A new heterophyid cercaria from Texas"; (xxxi) L. R. Penner "*Schistosomatium* from the muskrat, *Ondatra zibethica*, in Minnesota and Michigan"; (xxxii) L. R. Penner "A strigeid of the genus *Neodiplostomum* which develops in laboratory rats from a diplostomulum metacercaria in the muscles of *Rana sphenocéphala*"; (xxxiii) L. Olivier "The life cycle of a strigeid

belonging to the Diplostomidae"; (xxxiv) W. E. Martin "The life cycle of *Stephanostomum tenue* (Linton), family Acanthocolpidae"; (xxxv) H. J. Bennett & A. G. Humes "Studies on the pre-cercarial development of *Stichorchis subtriquetrus* (Trematoda: Paramphistomidae)"; (xxxvi) E. E. Byrd "The present status of the trematode family Spirorchidae Stunkard"; (xxxvii) P. C. Beaver "Life history studies on *Psilostomum ondatrae* Price and *Petasiger nitidus* Linton (Trematoda)"; (xxxviii) L. J. Thomas "On the life cycle of a tapeworm, *Diphyllobothrium* sp., from the herring gull, *Larus argentatus* Pont."; (xxxix) J. E. Alicata "Life history of the cecal fluke, *Postharmostomum gallinum*, of poultry"; (xl) J. S. Rankin, jr. "The life cycle of the frog bladder fluke, *Gorgoderina attenuata* Stafford, 1902 (Trematoda: Gorgoderidae)"; (xli) R. M. Cable & A. V. Hunninen "Observations on the life history of *Spelotrema nicolli* n. sp. (Trematoda: Microphallidae), with the description of a new microphallid cercaria"; (xlii) C. H. Willey "The life history of *Zygocotyle lunatum*"; (xliii) C. H. Willey & Y. Rabinowitz "The development of *Cercaria burti* Miller, 1923, in leeches and ducks"; (xliv) M. S. Ferguson "Experimental studies on *Posthodiplostomum minimum* (MacCallum, 1921) a trematode from herons"; (xlv) A. O. Foster & C. M. Johnson "Proto spiruriasis, a new nematode disease of captive monkeys"; (xlvi) A. C. Chandler "Effects of number and age of worms on development of primary and secondary *Hymenolepis diminuta* infections in rats"; (xlvii) A. J. Sheldon "Specificity of artificial acquired immunity to *Strongyloides ratti*"; (xlviii) G. L. Graham "Constitutionally dissimilar lines of *Strongyloides ratti*"; (xlix) G. F. Otto & J. W. Landsberg "Studies on dietary deficiencies and iron salts in experimental canine hookworm infections"; (l) B. G. Chitwood & M. B. Chitwood "Three new nematocides with a consideration of factors governing nematocidal efficacy"; (li) A. C. Jerstad "Critical tests with iso-amyl-ortho-cresol for the removal of worms from the dog"; (lii) M. P. Sarles & W. H. Taliaferro "The effect of dosage and interval after infection on passive immunity to the nematode, *Nippostrongylus muris*"; (liii) O. R. McCoy "Rapid loss of *Trichinella* larvae fed to immune rats and its bearing on the mechanism of immunity"; (liv) J. H. Wilmoth "A note on the cultivation of *Taenia taeniaeformis* larvae in vitro"; (lv) P. R. Highby "Development of the microfilaria of *Dirofilaria scapiceps* (Leidy, 1886) in mosquitoes of Minnesota".

R.T.L.

353—Journal of the Philippine Islands Medical Association.

- a. CHANCO, jr., P. P., 1938.—"An unusual exit of an adult ascaris from a child." 18 (11), 709-714.
- b. ANON, 1938.—"The menace of schistosomiasis in the Philippines." [Editorial.] 18 (11), 715-718.

(353b) Most of the endemic cases of *Schistosoma japonicum* are traceable to the islands Leyte and Samar where *Blanfordia quadrasi* has been incriminated as intermediary by Tubangui who recently discovered the disease in Agusan and Surigao. The significance of Tubangui's discovery that nearly every person examined in North-eastern Mindanao was infected, is stressed in view of its projected recolonization.

R.T.L.

354—Journal of Tropical Medicine and Hygiene.

- a. ZAHAWI, S., 1938.—“Intestinal obstruction and atrophic lesion of the appendix caused by *Ascaris*.” 41 (19), 316-318.
- b. CAWSTON, F. G., 1938.—“A comparison of the treatments of kala-azar and schistosomiasis.” 41 (21), 343-344.

355—Journal of Urology.

- a. HAYWARD, W. G., 1938.—“Schistosomiasis japonicum with vesical involvement 37 years after infection.” 39 (5), 722-726.

356—Journal of the Washington Academy of Sciences.

- a. JACOBS, L., 1938.—“Studies on trichinosis. X. The incidence of light infestations of dead trichinae in man.” 28 (10), 452-455.
- b. CHITWOOD, B. G. & CHITWOOD, M. B., 1938.—“Notes on the ‘culture’ of aquatic nematodes.” 28 (10), 455-460.

(356a) In the regular trichinosis survey now being conducted by the National Institute of Health in America, two techniques are used for the detection of infestations; direct microscopic examination of small samples of diaphragm, and the digestion-Baermann technique. Since infestations with dead larvae are not detected by the digestion technique, and the small samples for microscopic examination may not show very light infestations, additional 10 gram samples from round the tendinous insertions of the diaphragm have been examined in negative cases. Jacobs has shown by this method that an additional 4 to 5% of the cases previously considered as negative have very light infestations with dead larvae, thus raising the total incidence to about 21%.

V.D.V.S.

(356b) Chitwood & Chitwood describe the setting up of four small aquaria, three with fresh and one with sea water, in which they have successfully maintained aquatic nematodes. Of the latter, the following are new to science, *Tylenchus filiformis* v. *abulbosus* n. var., *Metaparoncholaïmus heterocyctous* n. sp. and *Oncholaimium oxyuris* v. *domesticus* n. var.

T.G.

357—Klinische Monatsblätter für Augenheilkunde und für Augenärztliche Fortbildung.

- a. YAMAGA, I., 1938.—“Ueber experimentelle Untersuchungen von *Cysticercus fasciolaris* in der vorderen Augenkammer des Kaninchens.” 100, 414-434.

(357a) Yamaga has investigated the viability of *Cysticercus fasciolaris* after transplantation into the anterior chamber of the eye of rabbits. It was impossible to get development of the egg in this position. Larvae which had been allowed to develop in their natural environment for from 1 to 3 weeks, set up a reaction after transplantation. Larvae aged 4 to 5 weeks at the time of operation lived in the new situation for about 40 days, while fully developed larvae lived about 38 days. During this period, both larvae showed some activity. The host reaction is described in detail but was not specific to the parasite.

P.A.C.

358—Klinische Wochenschrift.

- a. LIPPELT, H. & MOHR, W., 1938.—“Zur Diagnostik der Filarienerkrankungen.” 17 (48), 1684-1689.

359—Lingnan Science Journal.

- a. LI, L. Y. & LEI, T. C., 1938.—“Notes on *Heterodera marioni* as root parasites in some Kwangtung economic plants and weeds.” 17 (4), 533-537.
 b. CHIN, T. G., 1938.—“A new species of cestode of the family Anoplocephalidae (Cestoda) from Tapira.” 17 (4), 605-607.

(359a) Li & Lei list 26 plant species, including cultivated plants and weeds, which they have found to serve as hosts to *Heterodera marioni* in the Kwangtung province. Of 32 varieties of tomato tested only one, “Red pear,” showed any marked indication of resistance to attack. It is suggested that the introduction of a rice crop into the rotation system might reduce soil infestation by means of flooding.

M.J.T.

(359b) Chin describes *Anoplocephala tapirus* n. sp. from the small intestine of *Tapirus americanus*. This species resembles *A. mamillana* but is readily distinguished by its much greater size, the absence of longitudinal slits in the suckers, and the small size of the ova.

P.A.C.

360—Lyon Médical.

- a. GARIN, C. & BERTRAND, P., 1938.—“Un cas d'ictère fébrile grave dû au parasitisme des voies biliaires par *Fasciola hepatica*. Guérison par l'anthiomaline associée à l'extrait de fougère mâle.” 161 (15), 409-412.

(360a) Garin & Bertrand report a severe case of Fascioliasis hepatica in a girl of 20. Icterus and haemorrhages were accompanied by intermittent fever, all the symptoms pointing to an infectious angio-cholitis with the exception of the blood picture which revealed an eosinophilia of 57%. The patient was cured with capsules of ether-extract of male fern followed by a course of anthiomaline [no dosage given]. This is the 6th report of this disease in the Lyons district.

B.G.P.

361—Médecine Infantile.

- *a. COFFIN, M., 1938.—“De l'abus des vermifuges.” 45, 112-118.

362—Medical Parasitology and Parasitic Diseases.

- a. PETROV, M. I., 1938.—“New diphyllbothriids of man.” 7 (3), 406-414. [In Russian: English summary p. 414.]
 b. VISHNEVSKAYA, S. M., 1938.—“The degree of dehelminthisation of sewage at the Kharkov Bio-station.” 7 (3), 450-454. [In Russian.]
 c. BADALJAN, A. L., 1938.—“La localisation des cysticercoides du *Hymenolepis nana* dans l'intestin de la souris blanche.” 7 (4), 580-583. [In Russian: French summary p. 583.]

* Original not available for checking or abstracting.

- d. BOGDANOVITCH, M. O., 1938.—“A propos des complications après la trichinellose.” 7 (5), 736-744. [In Russian: French summary pp. 743-744.]
- e. ZERTCHANINOV, L., 1938.—“Helmintho- et protofaune des populations du nord de la région de Sverdlovsk.” 7 (5), 745-748. [In Russian: French summary p. 748.]
- f. ANON, 1938.—“Instruction for controlling taeniidosis and cysticercosis.” 7 (5), 782-786. [In Russian.]

(362a) Petrov describes in Russian *Diphyllbothrium skrjabini* from man in the Nentsi district. This is normally a parasite of dogs. *D. nenzi* n. sp. is also described from man. P.A.C.

(362b) Vishnevskaya reports on the helminth eggs (*Ascaris*, *Trichuris*, *Hymenolepis* and *Taenia*) recovered from Kharkov sewage at various stages in its treatment and disposal, which here involves anaerobic sludge digestion and aeration of the liquid in sprinkling filters. The concentration of eggs falls from 66 per litre in the crude sewage to 2 per litre in the effluent. Eggs were present in all the sludges, in scum from the methane tank, and in the zoogloal film from the filters. Even in sludge fields of 4 years standing, *Ascaris* eggs were present at a depth of 1 metre in a concentration of 7 per g. B.G.P.

(362c) Badaljan has examined the situation of cysticercoids of *Hymenolepis nana* in rats and mice. They contrast with *H. fraterna* in tending towards the second half of the small intestine, 94.4% being found here. Most of these, 87.9%, were congregated together in a region 4 to 12 cm. from the caecum. Maximum infections result from feedings of 3,000 to 8,000 eggs, larger doses resulting in smaller infections. From 0.8 to 4.1% of the eggs so administered develop into cysticercoids. P.A.C.

(362d) Of 160 cases of human trichinosis studied, 27.0% developed complications, 7.5% nervous, 5.8% vascular, and 3.95% intestinal; these included myocarditis (usually fatal), thrombosis, diaphragm paralysis, encephalitis, paraplegia and muscular atrophy. Prenatal infection has not been observed in man, and lowered eosinophilia is a bad prognostic sign, but high eosinophilia is no indication of the severity of infection. V.D.V.S.

(362e) Zertchaninov reports that 23% of 130 inhabitants, of the Nikitolvdal district were found to have helminth eggs in the faeces, the commonest parasite being *Opisthorchis felineus* which was also found in 1 of 3 cats examined. Developmental stages could not be found in 335 assorted molluscs nor in 61 fish. B.G.P.

363—Medizinische Klinik.

- a. RECKZEH, P., 1938.—“Betrachtungen zur Erkennung der Dissimulation von Infektions-, parasitären und Geschwulstkrankheiten.” 34 (13), 429-430.
- b. FREUND, L., 1938.—“Die Einschleppungsmöglichkeit der Haemoptoe parasitaria nach Mitteleuropa.” 34 (25), 831-832.

(363b) Freund discusses the possibility of paragonimiasis being introduced into Central Europe following upon the invasion of its rivers by the mitten crab, *Eriocheir sinensis*. A reservoir host is present in the form of the musk rat, *Fiber zibethicus*, and the missing first intermediary,

Melania, might also be introduced, or another snail might prove capable of deputizing, as in the New World. So far as man is concerned, there is wanting the habit of eating mitten crabs raw.

B.G.P.

364—Medizinische Welt.

- a. HAGENA, A., 1938.—“Ein wichtiger Fortschritt in der Bekämpfung von Wurmkrankheiten bei Mensch und Tier.” 12 (28), 1000-1001.

(364a) Hagena briefly reviews the principal anthelmintics in current use in medical and veterinary practice, and shows that the ideal would be a drug with high efficiency against all species of worms, combined with low toxicity. An approach to this ideal is said to be embodied in “Helmofix,” which contains paracymene, thymol, ol. ricini, and kamala.

B.G.P.

365—Memorias do Instituto Oswaldo Cruz.

- a. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1938. “Pesquisas helmintológicas realizadas no Estado do Pará. II. Dois novos trematodeos de *Caiman sclerops* Gray.” 33 (1), 53-56.
- b. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1938.—“Pesquisas helmintológicas realizadas no Estado do Pará. III. Um raro parasito das tartarugas fluviais do Amazonas.” 33 (1), 57-61.
- c. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1938.—“Sobre alguns trematodeos parasitos de *Chelone mydas* (L.), principalmente Paramphistomoidea.” 33 (1), 79-87.
- d. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1938.—“Pesquisas helmintológicas realizadas no Estado do Pará. IV. Trichostrongylideos de mamíferos.” 33 (3), 363-380.
- e. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1938.—“Pesquisas helmintológicas realizadas no Estado do Pará. V. Genero *Diaphanocephalus* Diesing, 1851 (Nematoda: Strongyloidea).” 33 (3), 423-432.
- f. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1938.—“Pesquisas helmintológicas realizadas no Estado do Pará. VI. Acanthocephala.” 33 (4), 455-459.
- g. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1938.—“Novo nematodeo parasito de rã sul-americana.” 33 (4), 477-479.

(365a) Freitas & Lent describe and figure *Echinostoma jacarétinga* n. sp. and *Caimanicola marajoara* n. g., n. sp., both in the small intestine of *Caiman sclerops* from the isle of Marajó, Pará. The first, based on 12 specimens, is nearest to *E. crocodili*. The new genus is placed in the Centrocestinae (Heterophyidae) and resembles *Lacerdaia* Trav.

B.G.P.

(365b) Lent & Freitas redescribe and figure *Braunotrema pulvinata* (Braun, 1899) Price, 1930, from 9 specimens which they found in the small intestine of the chelonian *Podocnemis expansa*, from the Amazon. This callodistomid fluke was originally described by Braun as a *Distomum* and was placed by Odhner (1910) in a new genus *Thaumatocotyle*, which name proved to be preoccupied.

B.G.P.

(365c) Freitas & Lent give illustrated redescrptions of *Orchidasma amphiorchis* (Braun) and *Polyangium linguatula* (Looss) based on material collected by Travassos; and they describe and figure *Metacetabulum invaginatium* n. g., n. sp. for which a new family, Metacetabulidae, is erected

in the Paramphistomoidea. This species has a rudimentary, non-muscular, terminal acetabulum, and the posterior part of the body is retractile. These 3 species are from the alimentary canal of *Chelone mydas*. They also reproduce the figure and give a Portuguese translation (from Russian) of the diagnosis of *Plectognathotrema cephalopore* Layman, 1930, from *Cantherinus modestus*.
B.G.P.

(365d) Lent & Freitas report on 16 species of mammalian Trichostrongylidae from material collected in Belém (Pará, Brazil). The new forms are : *Molineus nasuae* n. sp. in *Nasua narica* ; *Fontesia secunda* n. sp., *Graphidiops costalimai* n. g., n. sp., *G. inaequalis* n. sp., and *Caenostromylus splendidus* n. g., n. sp., all 4 from *Tamandua tetradactyla* ; *Heligmostrongylus differens* n. sp. from *Coendu insidiosus* ; *Heligmodendrium hepaticum* n. sp. and *H. oliveirai* n. sp. from *Sciurus aestuans*. *Graphidium browni* Price, 1928 is transferred to *Graphidiops*. New hosts are given for *Longistriata castrosilvai*, *Heligmodendrium elegans*, and *Trifurcata major*, the last 2 being redescribed.
B.G.P.

(365e) Freitas & Lent give an illustrated redescription of *Diaphanocephalus galeatus* (Rud.) from new material from *Tupinambis teguixin*, and describe *D. diesingi* n. sp. from the small intestine of *T. nigropunctatus* in Belém (Pará). They revise the diagnosis of the hitherto monotypic *Diaphanocephalus* and also that of the Diaphanocephalidae.
B.G.P.

(365f) Lent & Freitas list 7 species of Acanthocephala collected from various animals in Pará, including *Oncicola macrurae* Meyer, 1931, which they hold (contra Witenberg) to be a valid species and of which they give an illustrated redescription.
B.G.P.

(365g) Freitas & Lent give an illustrated description of *Oswaldocruzia lopesi* n. sp. from the small intestine of *Leptodactylus ocellatus* from Rio de Janeiro. They differentiate it from its nearest congeners : *O. mazzai* and *O. subauricularis*.
B.G.P.

366—Military Surgeon.

- a. CORNELL, V. H., 1938.—“Hookworm survey of CCC enrollees.” 82 (6), 491-504.

367—Minerva Medica. Torino.

- a. BLAVET DI BRIGA, C., 1938.—“Considerazioni su di un caso di occlusione da ascaridi.” Anno 29, 1 (11), 281-284.

368—Minnesota Medicine.

- a. ESSEX, H. E., 1938.—“Present status of infestation of fishes of Long Lake, Ely, Minnesota, with larvae of *Diphyllbothrium latum*.” 21 (4), 254-255.

(368a) Essex has examined small numbers of susceptible species of fish from Long Lake, and finds the percentage infestation with larvae of *Diphyllbothrium latum* to be the same as it was prior to 1930, i.e., *Stizostedion vitreum* and *Esox lucius*, 100% infected ; *Perca flavescens*, 2 fish only, no infection (1930, 60% infected).
E.M.S.

369—Monatsschrift für Unfallheilkunde und Versicherungsmedizin.

- a. QUENSEL, F., 1938.—“Cysticercusepilepsie.” 45, 142-150.

(369a) Quensel presents a case report of epilepsy due to cysticerciasis. An interesting feature of the case was the absence of a satisfactory diagnosis until skiagraphical examination of a shoulder, which had been injured in an accident, chanced to reveal shadows of calcified cysticerci. B.G.P.

370—Münchener Medizinische Wochenschrift.

- a. BÜHLER, F. & HASSELBACH, H. VON, 1938.—“Zur Diagnostik des *Echinococcus alveolaris*.” 85 (43), 1665-1668.

371—New England Journal of Medicine.

- a. ANON, 1938.—“Oxyuris infection of the salpinx and pelvic peritoneum.” 218 (7), 305-309.

372—New Zealand Medical Journal.

- a. BARNETT, L., 1938.—“Hydatid disease: incidence in New Zealand.” 37 (200), 188-192.
b. DEMPSTER, G. O., 1938.—“Intestinal parasites in Western Samoa.” 37 (200), 214-218.

(372a) Barnett reports the high incidence of hydatid disease in New Zealand, a fair estimation being 125 to 150 fresh human cases per year admitted into hospital. The danger from the large dog-population is pointed out, as is the high percentage of sheep infested. J.W.G.L.

373—Northwest Medicine.

- a. MARSHALL, G. R. & WOOD, Q. L., 1938.—“Ischioanal abscess caused by *Oxyuris vermicularis*.” 37 (6), 180-182.
b. VOEGTLIN, W. L., 1938.—“Some novel manifestations of ascariasis.” 37 (6), 182-183.

374—Nuovo Ercolani.

- a. GARZIA, G., 1938.—“Una nuova specie di *Ascaridia* trovata nei sacchi aerei di uno struzzo.” 43 (3), 81-84.

(374a) Garzia describes *Ascaridia struthionis* n. sp. from the air sacs of *Struthio camelus*, based on 5 specimens. It differs from other species of the genus in (*inter alia*) the location which “would seem to be somewhat exceptional,” and in the position of the vulva 0.5 mm. from the anterior end in a worm 45 to 60 cm. long and only 4 mm. in diameter. The dorsal lip is much reduced. B.G.P.

375—Parasitology.

- a. DAVEY, D. G., 1938.—“Studies on the physiology of the nematodes of the alimentary canal of sheep.” 30 (3), 278-295.
b. GLASER, R. W. & STOLL, N. R., 1938.—“Sterile culture of the free-living stages of the sheep stomach worm, *Haemonchus contortus*.” 30 (3), 324-332.

- c. DAVIES, T. I., 1938.—“A description of *Hymenolepis neoarctica* n. nom., syn. *H. fusus* Linton, 1927, with a discussion on the synonymy of *Taenia fusus* Krabbe, 1869.” 30 (3), 339-343.
- d. DAVIES, T. I., 1938.—“On *Anomotaenia gallinaginis* n. sp. from the intestine of the common snipe, *Gallinago gallinago* (Linn.).” 30 (3), 344-346.
- e. KINTNER, K. E., 1938.—“Notes on the cestode parasites of English sparrows in Indiana.” 30 (3), 347-357.

(375a) Davey has carried out investigations on some of the environmental factors which might account for the localization of sheep nematodes in different regions of the alimentary tract. He found that intestinal worms could not withstand for long an acidity equal to that of the abomasal contents. He also found that the distance from the pylorus of different genera of intestinal worms was correlated with the lethal action on them of certain concentrations of bile salts. Attempts to feed various nematodes on abomasal fluid, blood serum, blood digest, or defibrinated blood were unsuccessful, and it is suggested that this was not due entirely to bacterial influence. Spectroscopic examination of the haemoglobin present in some of the nematodes showed that this was different from the haemoglobin of the host.

R.H.H.

(375b) Glaser & Stoll describe their method of sterile culture of *Haemonchus contortus* infective larvae. Sterile eggs were first obtained by repeated washing and centrifuging in sterile water and with White's sterilizing agent. They were then cultured on an agar medium containing liver extract, sterilized ground bakers' yeast and fresh sterile rabbit's kidney. Up to about a quarter of the eggs which hatched out developed into infective larvae. These sterile larvae were slightly smaller than faecal grown specimens, but they were shown experimentally to set up infection in a bottle-reared helminth-free lamb.

J.W.G.L.

(375c) Davies describes a cestode parasite of a black-backed gull, *Larus marinus*, under the name of *Hymenolepis neoarctica* nom. nov. and shows it to be identical with *H. fusus* Linton, 1927. This latter species has been shown to be quite distinct from *Taenia fusus* as described by Krabbe with which it has been associated. A new specific name was therefore necessary. *Hymenolepis ductilis* was also recovered from this gull. This is the first record of the presence of these two species in the Old World.

P.A.C.

(375d) Davies describes *Anomotaenia gallinaginis* n. sp., a parasite of snipe in Wales. It can be distinguished from other species of the genus by the possession of 26 rostellar hooks, arranged in two alternating rows. The number of testes in each proglottid vary from 17 to 22. There is considerable resemblance to *A. globula* which however has 30 hooks and 35 testes per segment, and to *A. ericetorum* which has 32 hooks.

P.A.C.

(375e) Kintner has recovered 3 species of cestodes from English sparrows in Indiana, district Lafayette. 3.5% of the birds contained what he provisionally identifies as *Choanotaenia passerina*, though his material differs in certain respects from that described by other workers. It showed resemblances to *Paricterotaenia parina*, differing however in the form of the uterus which breaks up into egg capsules. *Hymenolepis passeris* and *Anomotaenia globata* both occurred in 2.5% of the birds. This is the first record of *H. passeris* in North America.

P.A.C.

376—Paris Médical.

- a. BENHAMOU, E., THIODET & CASANOVA, J., 1938.—“L'asthme hydatique.” 28 (8), 158-162.

377—Pathologica.

- a. LIDDO, S., 1938.—“*Hymenolepis diminuta* nella provincia di Bari.” 30 (564), 436-437.

(377a) Liddo briefly reports a human case of infection with *Hymenolepis diminuta*, the 12th recorded for Italy and the 1st for the province of Bari.

B.G.P.

378—Philippine Journal of Animal Industry.

- a. JESUS, Z. DE, 1938.—“External and internal metazoan parasites of Philippine cattle.” 5 (1), 21-34.
b. AFRICA, C. M., 1938.—“An attempt to elucidate the filtration of eggs of certain heterophyid trematodes into the general circulation.” 5 (2), 187-200.

(378a) De Jesus reports on the incidence of metazoan parasites in 602 ranch cattle of 3 to 5 years old, autopsied after being used for rinderpest vaccine purposes in 1933 to 1935, and gives a revised list of such parasites in Philippine cattle based on more extensive material and on previous records. The incidence-data are not comparable with slaughterhouse findings in Manila since the latter are based on more heavily parasitized cattle of more varied age from small lowland farms, but they show that *Syngamus laryngeus* (in 68%), amphistomes (66%), and *Thelazia rhodesi* (44%) have the highest incidence among the helminths. A single case of *Eurytrema ovis* in *Bos taurus* constitutes a new host record, while *Dictyocaulus viviparus* (27%) in both cattle and carabao is a new locality record for the Philippines. B.G.P.

(378b) By inducing heavy infections of *Haplorchis yokogawai* in kittens, dogs, and 3 species of birds, Africa has been able to assess the possibility of intramucosal infection, which if verified might throw some light on cardiac heterophyidiasis in man. In the dog and the cattle egret, but not in the other hosts, true intramucosal infection was established by an extensive study of serial sections of the small intestine. It would appear that the usual route is via the lumen of the intestinal glands, though some sections of cattle egret suggested that flukes were directly engulfed by the villi. A feature of intramucosal infection is the slightness, or complete absence, of any local host-reaction. B.G.P.

379—Philippine Journal of Science.

- a. TUBANGUI, M. A. & MASILUNGAN, V. A., 1938.—“*Nephridiorhynchus palawanensis* sp. nov., an acanthocephalan parasite of *Manis javanica* Desmarest.” 66 (1), 1-4.
b. AFRICA, C. M., 1938.—“Description of three trematodes of the genus *Haplorchis* (Heterophyidae) with notes on two other Philippine members of this genus.” 66 (3), 299-307.

(379b) Africa describes *Haplorchis vanissima* n. sp., recovered at autopsy from the small intestine of a male Filipino, characterized by a very large gonotyl

bearing a pair of claw-like chitinous plates and large segmented spines. There are now 6 species of *Haplorchis* known to be natural human parasites in the Philippines, *H. calderoni* being recorded from 2 natives as well as from dogs and cats. *H. sisoni* n. sp. is described from experimental infections in puppies and kittens, the metacercariae being obtained from *Therapon argenteus*—the worms are very like *H. calderoni*, but have shorter intestines and a smaller expulsoir portion of the seminal vesicle. Two other human parasites, *Haplorchis taichui* and *H. yokogawai* (formerly reported as *Monorchotrema taihokui*) are shown to be identical with material from Japan, China, and in the case of the former, Palestine. Both are parasites as well of cats, dogs and cattle egrets, and *H. yokogawai* has been experimentally reared in *Strix whiteheadi*, *Pyrreroidios manilensis* and *Macacus cynomolgus*. E.M.S.

380—Phytopathology.

- a. CONDIT, I. J. & HORNE, W. T., 1938.—“Nematode infestation of olive roots.” 28 (10), 756-757.

(380a) Condit & Horne report the presence of *Pratylenchus musicola* (identified as such by Steiner) in necrotic areas of the roots of olive trees in California. T.G.

381—Plant Disease Reporter.

- a. BUHRER, E. M., 1938.—“Additions to the list of plants attacked by the root-knot nematode (*Heterodera marioni*).” 22 (12), 216-234.

(381a) Buhrer lists 477 species of plants which have been found to be parasitized by *Heterodera marioni* subsequent to the publication of a list of 855 plant species, hosts of this parasite, by Buhrer, Cooper & Steiner in 1933. Scientific names, their synonyms, and popular names are given. M.J.T.

382—Policlinico (Sezione Pratica).

- a. NASTASI, A., 1938.—“Schistosomiasi e malacofauna nel Sahara Libico (Fezzan e Gat).” 45 (42), 1907-1915; (43), 1951-1961.
b. GIUDICEANDREA, V., 1938.—“Sulla eosinofilia nelle parassitosi intestinali.” 45 (46), 2089-2094.

(382a) Nastasi briefly reviews published cases of schistosomiasis in the Libyan Sahara, and proceeds to give the results of his own detailed searches for *Bulinus contortus* and for schistosomiasis cases, as a member of the Fezzan Sanitary Mission. The results are discussed by villages and oases, and summarized from p. 1951 onwards. A map (p. 1959) shows the distributions of cases and molluscs. The cases, totalling 325 from 23 localities, show great variation in incidence from place to place.

Like Zavattari (1932, 1934) and Giordano (1935), Nastasi could not find *B. contortus* in the Ghat oases, though schistosomiasis is common there: the only mollusc found to be co-extensive with cases was *Melania tuberculata*, though *Limnaea laurenti* and *Planorbis pfeifferi* occurred restrictedly. The latter suggests the possibility of intestinal schistosomiasis becoming established in Ghat. B.G.P.

(382b) Giudiceandrea has examined the leucocyte picture, and frequently tested for oxaluria, in 46 cases of intestinal parasitosis, of which 28 concerned helminths, and has found an eosinophilia in only 18 out of the 46. It was slight in all the (7) *Trichuris* cases, but present in only a third of the (15) *Enterobius* cases. Occasionally there was a monocytosis or a lymphocytosis. Oxaluria, on the other hand, was present in 23 of the 27 cases tested, usually associated with eosinophilia. Crystals of calcium oxalate are usually also present in the faeces. Oxaluria is thus a valuable sign in clinical diagnosis.

B.G.P.

383—Polska Gazeta Lekarska.

- *a. PROGULSKI, S. & ROSENBUSCH, J., 1938.—[Two cases of ankylostomiasis.] 17, 321-323.

384—Poultry Science.

- a. HARWOOD, P. & JERSTAD, A. C., 1938.—“An improved critical test for poultry taeniocides.” 17 (4), 295-297.

(384a) Harwood & Jerstad have attempted to list the efficiency of a mixture of kamala, nicotine, chenopodium, copper oxide and graphite as a vermifuge in chickens. They experimentally infected 6 chickens with a single specimen of *Raillietina cesticillus*, hoping that by using a known infection that they could estimate the maximum efficiency of the drug accurately. After treatment 5 birds remained infected, making the efficiency of the drug to be 17%. As however they saw no evidence of elimination of the worm from the 6th bird after treatment, they believe it was expelled between the last faeces examination and treatment. P.A.C.

385—Praticien du Nord de l'Afrique.

- *a. LAURENT, 1938.—“Premiers doutes sur le perfectionnement biologique des parasites.” 11, 213-226.

386—Presse Médicale.

- a. BREHANT, J., 1938.—“La kystectomie est-elle opportune dans le traitement opératoire des kystes hydatiques du foie? (A propos d'une observation d'énucléation de kyste hydatique hépatique).” 46 (21), 391-392.
 b. IACOBOWICI, I., 1938.—“Extirpation totale des kystes du pancréas.” 46 (34), 655-656.
 c. GOINARD, P., 1938.—“Quelques notions pratiques sur les kystes hydatiques calcifiés.” 46 (51), 1023-1025.

387—Proceedings. American Society of Sugar Beet Technologists.

- a. OWEN, F. V., THORNE, G. & MCBETH, C. W., 1938.—“Varietal tests for resistance to sugar beet nematodes.” [Abstract.] 1938, p. 71.
 b. THORNE, G., 1938.—“Alfalfa resistant to the stem nematode.” [Abstract.] 1938, pp. 71-72.

(387a) Owen, Thorne & McBeth report the results of attempts to select varieties of sugar beet resistant to sugar beet nematodes. The work has been in progress for 10 years but early selections were abandoned owing to outbreaks

* Original not available for checking or abstracting.

of "curly top." Stocks known to be resistant to "curly top" were used in later trials but no marked nematode resistance has been shown although the more vigorous varieties appeared to give relatively better results. M.J.T.

(387b) Thorne reports the occurrence of a variety of alfalfa (lucerne), known as Turkestan 19304, almost completely resistant to the attacks of the stem eelworm, *Ditylenchus dipsaci*. T.G.

388—Proceedings of the National Academy of Sciences, India.

- a. DAYAL, J., 1938.—"Studies on the trematode parasites of fishes. A new trematode *Nizamia hyderabadii* n. gen., n. sp., from the intestine of a fresh-water fish, *Ophiocephalus punctatus*." 8 (2), 53-58.
- b. DAYAL, J., 1938.—"A new trematode, *Gorgotrema barbius* n. gen., n. sp., from a fresh-water fish, *Barbus sarana*." 8 (3), 63-67.
- c. VIDYARTHI, R. D., 1938.—"New avian trematodes (family Diplostomidae) from Indian birds." 8 (3), 76-84.

(388a) *Nizamia hyderabadii* n. g., n. sp. is placed with the genera *Ganada*, *Neoganada* and *Leptophallus*, in a new subfamily, *Leptophallinae*, of the Plagiorchiidae. The main diagnostic character of the subfamily is the division of the vesicula seminalis into pars externa and pars interna, lying respectively outside and inside the cirrus sac. E.M.S.

(388b) *Gorgotrema barbius* n. g., n. sp. belongs to the subfamily *Gorgoderinae*. It is distinguished from other genera of the group mainly by its funnel-shaped buccal cavity, and by the large number (34 to 40) of its testes. E.M.S.

(388c) Vidyarthi describes four new diplostomes from the small intestines of birds taken in Allahabad. They are: *Posthodiplostomum botauri* n. sp. from *Botaurus stellaris*, *Neodiplostomum mehranum* n. sp. from *Haliaeetus leucoryphus*, *N. laruei* n. sp. from *Sarcogyps calvus*, and *Crassiphiala ceryliformis* n. sp. from *Ceryle radis leucomalanara*. E.M.S.

389—Proceedings of the New Jersey Mosquito Extermination Association.

- a. NELSON, T. C. & MORRIS, M. L., 1938.—"Heartworm in dogs; a mosquito-borne menace in New Jersey." 25th Annual Meeting, pp. 227-232.

(389a) Nelson & Morris give a popular description of *Dirofilaria immitis* in the dog from a clinical viewpoint, giving particular reference to the problem in New Jersey. J.W.G.L.

390—Proceedings of the Society for Experimental Biology and Medicine.

- a. BROWN, H. W., 1938.—"Ineffectiveness of sulfanilamide in the treatment of canine filariasis." 39 (1), 98-100.

(390a) Brown found that neither oral nor intramuscular treatment of dogs with sulfanilamide was effective against *Dirofilaria immitis*, as judged by microfilaria counts. J.J.C.B.

391—Public Health Reports. Washington.

- a. BOZICEVICH, J., 1938.—“Studies on trichinosis. XII. The preparation and use of an improved trichina antigen.” 53 (48), 2130-2138.
- b. D'ANTONI, J. S. & ODOM, V., 1938.—“A supplementary basic technique for the recovery of protozoan cysts and helminth eggs in feces. (Preliminary communication).” 53 (50), 2202-2204.

(391a) Bozicevich describes a digestion-filter method for the clean isolation of *Trichinella* larvae for antigen preparation. The isolated larvae are dried before an electric fan in a sausage dialysing skin, ground, and then desiccated over sulphuric acid. The dried larvae are extracted in neutral 0.85% solution of sodium chloride at room temperature and in a refrigerator for 15 to 18 hours. The appropriate dilution for precipitin and skin tests is made after careful adjusting of the pH to 7.0, and the antigen is sealed in vials which are tested for leakage in eosin solution in a vacuum, and then fractionally sterilized at 58°C. for 1 hour after repeated cooling. The antigen prepared thus is said to have excellent keeping qualities, and the manner of using it for skin testing is described, tracing the development of the wheal on cellophane; the results of its use in an epidemic of trichinosis are described. The intensity of reaction is not proportional to the degree of infestation, and other clinical features should be taken into consideration when making a diagnosis.

V.D.V.S.

(391b) In the technique recently described [see Helm. Abs., Vol. VII, No. 6b] a further step is introduced to overcome a complication in dealing with hookworm eggs. It proved necessary to estimate the percentage of eggs held back by the sieve. The method is essentially the same except that moist washed faeces residue is used instead of original faeces.

R.T.L.

392—Puerto Rico Journal of Public Health and Tropical Medicine.

- a. OLIVER, A. G. & OLIVER, J., 1938.—“Filariasis in Puerto Rican soldiers. A survey.” 14 (1), 18-20. [Also in Spanish pp. 21-23.]
- b. HOFFMAN, W. A., 1938.—“*Planorbis corneus* not an intermediate host of *Schistosoma mansoni*.” 14 (1), 24-25. [Also in Spanish pp. 26-27.]

393—Queensland Agricultural Journal.

- a. ROBERTS, F. H. S., 1938.—“Worms in sheep.” 50 (3), 352-353.

394—Rassegna Sanitaria dell'Impero.

- a. D'AMICO, M., 1938.—“Bilarziosi intestinale in due indigeni residenti a Massaua e provenienti da Saganeiti.” 1 (4/5), 57-58.

395—Report on the Veterinary Departments, Malaya.

- a. ORR, W., 1938.—“Observations on the occurrence of animal parasites.” Year 1937, pp. 93-100.

(395a) Reported by Orr from Malaya are *Platynosomum concinnum* and *Clonorchis sinensis* in cats, *Paramphistomum cervi* in cattle, sheep and goats, *P. explanatum* and *Syngamus laryngeus* in Malayan buffaloes, *Oxyuris*

mansoni, *Ascaridia galli*, *Capillaria longicollis* and *Amoebotaenia sphenoides* in poultry, *Dipylidium caninum*, *Toxocara canis*, *Trichuris vulpes*, *Dirofilaria immitis* and *Ancylostoma caninum* in dogs, *Ascarops dentata*, *Physocephalus sexalatus*, *Metastrongylus apri*, *Ascaris lumbricoides*, *Trichuris trichiura* and *Stephanurus dentatus* in pigs, *Cysticercus bovis* in cattle, *Nematodirus filicollis* and *Dictyocaulus viviparus* in cattle, *Haemonchus contortus* and *Oesophagostomum columbianum* in sheep, and *Habronema megastoma* and *H. microstoma* in horses.

R.T.L.

396—Revista de Gastro-Enterología de México.

- *a. ACOSTA SILVA, M., 1938.—“Uncinariosis. Nuevas adquisiciones en patología y patogenia.” 3, 27-34.

397—Revista Médica Veracruzana.

- *a. AGUIRRE PEQUEÑO, E., 1938.—“Helmintos y helmintiasis; importancia de su distribución geográfica en la República Mexicana.” 18, 2446-2454.

398—Revista de Medicina Tropical y Parasitología, Bacteriología, Clínica y Laboratorio.

- a. RODRÍGUEZ-MOLINA, R. & HOFFMAN, W. A., 1938. “The concomitance of *Schistosoma mansoni* and *Fasciola hepatica*.” 4 (3), 133-140.
- b. BASNUEVO, J. G. & ANIDO, V., 1938.—“Manera de conservar huevos de helmintos.” 4 (3), 159-160.
- c. KOURÍ, P., BASNUEVO, J. G., SOTOLONGO, F. & ANIDO, V., 1938.—“Estado actual de la distomatosis hepática en Cuba.” 4 (4), 185-202.
- d. BACIGALUPO, J., 1938.—“*Fasciola hepatica*. Su ciclo evolutivo.” 4 (4), 203-206.
- e. KOURÍ, P. & MACHO DOVAL, J., 1938.—“Tres casos de parasitismo humano por especies de la familia Davaineidae.” 4 (4), 207-217.
- f. LEÓN, L. A., 1938.—“Contribución al estudio de la parasitología sudamericana. El género *Raillietina* y su frecuencia en el Ecuador.” 4 (4), 219-230.
- g. CALVÓ FONSECA, R., KOURÍ, P. & BASNUEVO, J. G., 1938.—“Porcentaje y distribución geográfica de la verminosis intestinal en Cuba.” 4 (5), 231-261.
- h. MONTERO, A. M., 1938.—“Porcentaje y distribución geográfica del parasitismo intestinal en la provincia de Oriente.” 4 (5), 263-269.
- i. CAMACHO, T., 1938.—“El parasitismo intestinal en la niñez campesina de Huatabajo, terrible amenaza para las generaciones futuras.” 4 (5), 275-278.
- j. KOURÍ, P. & NAUSS, R. W., 1938.—“Sobre la genesis de la cubierta del huevo de *Fasciola hepatica*, demostrada por metodos histologicos.” 4 (6), 299-318.
- k. AGUIRRE PEQUEÑO, E., 1938.—“Datos bibliograficos en relación con la helmintología médica del hombre en México.” 4 (6), 323-338.
- l. BACIGALUPO, J. & LORETTI, G. A., 1938.—“La eritrosedimentacion en las parasitosis intestinales.” 4 (6), 339-340.

(398b) Basnuevo & Anido recommend mixing, with 100 g. of faeces, 25 c.c. of formol-glycerine in order to preserve and clear contained helminth eggs. Where eggs are scanty, sieving and centrifuging after thorough mixing with water should precede fixation. The formol-glycerine is made up with formalin 15, glycerine 20, and water 100 parts by volume. B.G.P.

* Original not available for checking or abstracting.

(398c) Since 1931, 25 human cases of Fascioliasis hepatica have been recorded from Cuba. Kouri et al. describe the symptomatology of the infection, its diagnosis by duodenal sound, its treatment with injections of emetine hydrochloride, and the way in which infection occurs and can be prevented. It is claimed that a total dose of 5 mg. emetine per kg. of body weight is effective, and that 49 cures can be ascribed to it. Clonorchiasis occurs in Cuba only in Chinese.

B.G.P.

(398d) Bacigalupo describes the life-history of *Fasciola hepatica* as observed by him in *Limnaea viatrix* [presumably in Argentine]. If miracidia are placed with this and other snails in one dish, they are attracted to this snail only. Each redia produces 4 to 20 cercariae, which are first shed after 57 to 80 days of development within the snail. Infection of liver occurs via the peritoneal cavity, egg-laying commencing 54 to 90 days after infection.

B.G.P.

(398e) Kouri & Doval record 3 cases of infection with a yet undetermined species of *Raillietina* in children of 18 months to 9 years. The 9-year-old child, who had had the parasite 6 years, was cured by 4 c.c. ether extract of male fern + 1 c.c. carbon tetrachloride divided into 12 capsules and given fasting at 5-minute intervals. The tapeworm, which was expelled after the 7th capsule, measured 39 cm. and consisted of 248 segments: it is described and figured.

B.G.P.

(398f) Since 1933, León has encountered 16 cases of human infection with 5 species of *Raillietina* in Ecuador, most of which have not yet been specifically identified. One of them, however, *R. quitensis* León, 1935 [no reference given] reaches the "gigantesque" length of 10 to 12 metres. It has a double crown of hooks, armed suckers, and a unilateral arrangement of genital pores. The intermediary is not known, but fleas and lice are suspected since it is the local "horripilant" custom to eat these insects. There are several [not very clear] microphotographs.

B.G.P.

(398j) Kouri & Nauss give a description, based on serial sections illustrated by several microphotographs, of the shell-gland complex and the vitelline glands in *Fasciola hepatica*, the maturation of the ovum and the formation of the egg shell. Their findings confirm the view, first put forward by Henneguy in 1906, that the shell material is secreted by the vitelline glands and not by the shell-gland. This material is carried to the ootype in the form of small refringent granules within the yolk cells. The same has been shown to apply to *Clonorchis*, *Platynosomum* and *Schistosoma* species; it is probably true of all trematodes and possibly also of cestodes. The "shell-gland," which might less misleadingly be termed Mehlis' gland, has the same histological structure as the prostatic gland: possibly both secrete a lubricant fluid.

B.G.P.

(398k) Aguirre Pequeño presents a 16-page bibliography on human helminthology in Mexico, but excluding the Filarias. In a few cases there are brief annotations. [Some references are incomplete and there are several typographical errors.]

B.G.P.

(398l) Bacigalupo & Loretto give haematological data for 71 cases of infection with protozoa or helminths or both. In only 7 was there an unusual increase in the rate of sedimentation of red cells..

B.G.P.

399—Revista Médico-Quirúrgica de Patología Femenina.

- *a. RUÍZ, V., 1938.—“Hidatidosis de la glandula mamaria. Consideraciones sobre 131 casos.” 11, 33-38.

400—Revistă Științelor Medicale.

- *a. ZOTTA, G., 1938.—[Useful directions concerning parasitologic analysis of faeces.] 27, 130-148.
- *b. DIMITRIU, A., CONSTANTINESCU, M. & PETRI, A., 1938.—[Two cases of pulmonary echinococcosis; left interlobar cyst and right pulmonary cyst.] 27, 263-269.

401—Revista Sud-Americana de Endocrinología, Immunología y Quimioterapia.

- a. MARONI, J. J., 1938.—“Nuevas consideraciones sobre la intradermo reacción hidatídica.” 21 (2), 100-106.

402—Revista de Tuberculosis del Uruguay.

- a. IVANISSEVICH, O., 1938.—“Equinococosis hidatídica del pulmón. Características radiológicas de la membrana encarcelada.” 7 (1), 6-7.
- b. PIAGGIO BLANCO, R. A., SCIUTTO, A. & ARTAGAVEYTIA, A. C., 1938.—“Hidatidotorax.” 7 (1), 8-19.
- c. MUÑOZ MORATORIO, L. & GREZZI, M. y S., 1938.—“Hemoptisis copiosas y recidivantes por restos de quiste hidático cesación inmediata por frenicectomía.” 7 (1), 20-23.
- d. PIAGGIO BLANCO, R. A. & GARCÍA CAPURRO, F., 1938.—“Hidatido-tuberculosis a tipo de retracción hemitorácica, tratada por toracoplastia.” 7 (1), 24-27.
- e. PRATT, D., 1938.—“Técnica del método operatorio en dos tiempos, de Lamas y Mondino, para los quistes hidáticos del pulmón.” 7 (1), 28-44.
- f. ARTAGAVEYTIA, A. C., 1938.—“A propósito de un caso probable de neumotórax espontáneo por quiste hidático del pulmón.” 7 (1), 45-52.
- g. CHIFFLET, A., 1938.—“Algunas consideraciones sobre el tratamiento del quiste hidatídico del pulmón.” 7 (1), 53-56.
- h. GARCÍA CAPURRO, F. & VÁSQUEZ PIEIRA, L. A., 1938.—“Cómo topografiar radioscópicamente a los quistes hidáticos del pulmón.” 7 (1), 57-63.
- i. FIERRO VIGNOLI, M., 1938.—“Cuadros clínicos de la equinococosis pulmonar.” 7 (1), 64-73.
- j. AMERICO FOSSATI, A., 1938.—“Quistes hidatídicos del pulmón. Estadísticas personales; notas breves; comentarios.” 7 (1), 74-87.

403—Revue Médicale Française.

- a. MONOD, R., 1938.—“De l'utilité de la thoracotomie exploratrice en plèvre libre.” 19 (4), 269-271.

404—Revue Médicale Française d'Extrême-Orient.

- a. CORNET, E., 1938.—“Note sur une nouvelle méthode de traitement de la sparganose oculaire.” 16 (2), 151-153.
- b. GALLIARD, H., 1938.—“A propos de *Rhabditis hominis* Kobayashi 1914.” 16 (4), 381-383.

* Original not available for checking or abstracting.

(404b) Galliard discusses the so-called parasitism of *Rhabditis hominis* Kobayashi and contrasts it with that of *Strongyloides stercoralis*. He shows that in making faecal cultures to determine the presence of *S. stercoralis* it is necessary to guard against contamination by the pseudo-parasite *Rhabditis hominis*.
T.G.

405—Revue de Pathologie Comparée et d'Hygiène Générale.

- a. CHATON, M., 1938.—“Recherches pour servir à l'étiologie et au diagnostic de l'échinococcose alvéolaire multiloculaire du foie chez l'homme.” 38 (499), 479-493.

406—Revue de Zoologie et de Botanique Africaines.

- a. BERGHE, L. VAN DEN & VUYLSTEKE, C., 1938.—“Les Parasubuluridae. Famille nouvelle d'Oxyuroidea au Congo Belge.” 31 (3/4), 376-382.

(406a) Van den Berghe & Vuylsteke describe and figure *Parasubulura gerardi* n. g., n. sp., based on over 100 specimens from the intestine of *Petrodromus tetradactylus* from Katanga. *Subulura calosa* Sandground, 1933, is transferred to the new genus, for which Parasubuluridae n. fam. is created. A key to the families of the Oxyuroidea is appended.
B.G.P.

407—Rivista di Chirurgia.

- a. PLACITELLI, G., 1938.—“Sulle cisti da echinococco primitive delle ghiandole salivari.” 4 (3), 109-115.

408—Rivista di Parassitologia.

- a. PALOMBI, A., 1938.—“Gli stadi larvali dei trematodi del golfo di Napoli. 2° contributo allo studio della morfologia, biologia e sistematica delle cercarie marine: (Il gruppo delle cercarie cotilocerche).” 2 (3), 189-206.
- b. VANNI, V., 1938.—“Sul comportamento del calcio nel parassitismo, con speciale riguardo alla calcificazione spontanea e sperimentale nelle elmintiasi.” 2 (3), 219-232.

(408a) In his second contribution to the study of the group, Palombi turns his attention to the cotylocercous cercariae. He records *Cercaria brachyura* Lespès and *C. linearis* Lespès, together with descriptions of 3 new species from marine gastropods of the Bay of Naples—*C. pisaniae* n. sp., *C. ruvida* n. sp., and *C. tridentata* n. sp. He utilizes such features as body spines, number and arrangement of gland cells, shape of stylet, to distinguish fixed specimens, where the excretory system is of little value.
E.M.S.

(408b) Vanni has studied the effect of administration of calcium to animals suffering from certain helminth infections. He found that calcium was absorbed by *Hymenolepis fraterna* in rats, *Cysticercus pisiformis* in rabbits and even by eggs of *Parascaris equorum*. Further development of the parasites was prevented and this led to recovery of the host from the disease.
R.H.H.

409—Rivista Sperimentale di Freniatria.

- a. FELICI, M., 1938.—“Cisticerco racemoso della base e meningite da cisticerco. (Contributo clinico ed isto-patologico).” 15 (2), 301-341.

410—Rocky Mountain Medical Journal.

- a. KOON, G. H., 1938.—“Parasitic and infecticous diseases transmitted through meat and dairy products.” 35 (5), 362-369.

411—Roentgen-Praxis.

- a. SCHLIERBACH, P., 1938.—“Ein Fall von *Echinococcus alveolaris* der Leber mit Lungenmetastasen.” 10 (3), 164-168.
b. SCHMITT, H., 1938.—“Zur Frage der Darstellbarkeit der Askariden im Röntgenbild.” 10 (4), 250-251.

412—Schweizer Archiv für Tierheilkunde.

- a. GRIEDER, H., 1938.—“Forensische Auswirkungen einer hochgradigen Endoparasiteninvasion in einem Rehbestande.” 80 (1), 23-29.
b. GRIEDER, H., 1938.—“Filaridae, Filariosis und Mikrofilariosis bei verschiedenen Säugetieren.” 80 (11), 485-490.
c. GALLI-VALERIO, B., 1938.—“Über die Parasiten des *Gyps fulvus* Habl. (Weisskopfgeier, Gänsegeier).” 80 (11), 490-492.

(412a) A game-keeper was convicted of having shot an 8-months-old roe-deer, the age of the animal having been determined by examination of its teeth. An appeal being made, further investigation showed that not only the animal in question but also others from the same district had massive infections with *Dictyocaulus viviparus* and other parasites. It was pointed out that heavy parasitic infection may retard normal development of the teeth, and therefore that the dead animal may have been even a year older than was at first thought. The accused was therefore acquitted. A.E.F.

(412b) Grieder gives redescrptions of *Filaria kitti*, which he has discovered in *Myocastor coypus* living free in the body cavity, *Setaria equina* from the peritoneal cavity of a horse, and *Setaria labiato-papillosa*, a parasite of a roe. Microfilariae were seen in the peripheral blood. Larvae of a filaria were seen also in the blood of 3 silky tamarins (*Leontobus rosalia*) and in 2 other monkeys, *Callithrix jacchus*. Adults were not found. P.A.C.

(412c) Galli-Valerio has examined the parasites of *Gyps fulvus*, the Griffon vulture. Helminths were represented by *Porrocoecum spiralis*, *Acuaria laticeps*, *Ligula intestinalis* and a number of trematodes in the trachea. These closely resembled *Ophthalmophagus singularis* but they also possessed 2 holdfast organs, such as are found in the Strigeinae. P.A.C.

413—Schweizerische Medizinische Wochenschrift.

- a. BORNAND, M., 1938.—“La transmission des maladies parasitaires à l'homme par les insectes.” 68 (10), 217-219.
b. BÜRGI, K., 1938.—“Ein Fall von Leberdistomatose bei einem 4jährigen Kinde (*Fasciola hepatica*).” 68 (47), 1274-1277.
c. STEINMANN, B., 1938.—“Zur klinischen und röntgenologischen Diagnose des *Echinococcus alveolaris* der Leber.” 68 (53), 1411-1415.

(413b) Bürgi's case report concerns a 4-year-old boy with symptoms of appendicular abscess and cholecystitis. The stool contained eggs of *Ascaris*, *Oxyuris* and *Fasciola hepatica*. Fourteen intramuscular injections of emetine hydrochloride relieved the symptoms without removing the flukes. Bürgi appends an account of the pathological anatomy and clinical symptomatology of fascioliasis.

B.G.P.

414—Skandinavisk Veterinär-Tidskrift.

- a. EMSBO, P., 1938.—“*Taenia saginata*.” 28 (5), 289-312. [In Danish : English summary p. 312.]
- b. PEDERSEN, H. O., 1938.—“En Oversigt over dyriske Snylttere med transitorisk eller stationær Forekomst i Leveren hos Drøvtyggere og Svin.” 28, (6) 345-362.

(414b) Pedersen passes under review the various helminths which occur in the liver of ruminants and swine, whether as permanent parasites (distomes, *Stilesia hepatica*, hydatid) or as transitory forms in migration (*Cysticercus tenuicollis* and *Linguatula*). Brief characteristics are given for the main groups and for each of the more important species, the larval tape-worms receiving fuller treatment.

B.G.P.

415—South African Medical Journal.

- a. SEGAL, A., 1938.—“A case of cysticercosis of bone.” 12 (20), 762-763.
- b. McHUGH, T. J. A., 1938.—“A case of elephantiasis of the scrotum.” 12 (21), 802-804.
- c. SCHRIRE, T., 1938.—“Hydatid disease of the lung and pleura.” 12 (23), 873-880.

416—Sovetskiy Vrachebniy Zhurnal.

- *a. TERIAN, S. A., 1938.—[Problem of strongyloidosis.] 42, 307-310.

417—Svensk Vererinärtidskrift.

- a. HÜLPHERS, G. & LAGERLÖF, N., 1938.—“De viktigaste parasitsjukdomarna hos får och deras bekämpande.” 43 (6), 211-242.

(417a) Hülphers & Lagerlöf review the parasitic diseases of sheep in Sweden. The first part of the paper is devoted to morphological descriptions of the sheep parasites most frequently met with. The nematodes described comprise *Dictyocaulus filaria*, *Muellerius capillaris*, *Haemonchus contortus*, *Trichostrongylus* sp., *Chabertia ovina*, *Trichuris ovis*, *Nematodirus filicollis* and *Bunostomum trigonocephalum*. The cestodes described are *Moniezia expansa*, *Cysticercus tenuicollis*, *Coenurus cerebralis* and hydatid. *Fasciola hepatica* is widespread and *Dicrocoelium dendriticum* also occurs. The remainder of the paper deals with the symptoms, diagnosis and treatment of infections with the above parasites and also describes certain methods of prophylactic hygiene. For lungworms a mixture of: creosote 1 part, chloroform 1 part, turpentine 2 parts, olive oil 4 parts is recommended, 4 c.c. being given by intratracheal injection for lambs. Inhalation and treatment by the mouth are also described. The alimentary infections are treated

* Original not available for checking or abstracting.

with copper sulphate 100 g., nicotine sulphate 100 g., and distilled water 8000 g., given in doses of 20 to 60 c.c. graded according to the animal's age. A detailed description of a method for treating liver-fluke with carbon tetrachloride (CCl_4 1 c.c. and paraffin 4 c.c.) in capsules is also given.

S.G.C.

418—Taiwan Igakkai Zasshi.

- a. KOBAYASHI, H. & YUMOTO, Y., 1938.—“Some studies on abnormal liver flukes, *Clonorchis sinensis*.” 37 (9), 1474-1481. [In Japanese: English summary pp. 1479-1481.]
- b. HANASAKI, T., 1938.—“Über *Cysticercus cellulosae hominis*.” 37 (10), 1509-1523. [In Japanese: German summary p. 1523.]
- c. SHIMOKAWA, H. & INOUE, H., 1938.—“Ein Fall von *Cysticercus cellulosae hominis*.” 37 (10), 1524-1529. [In Japanese: German summary p. 1529.]
- d. MUTO, S., 1938.—“A new species of fresh-water fishes which serves as a second intermediate host of liver fluke, *Clonorchis sinensis*, in Formosa.” 37 (10), 1537-1539. [In Japanese: English summary p. 1539.]
- e. YOKOGAWA, S. & YOSHINO, T., 1938.—“On the spread of *Wuchereria bancrofti* and its relationship to the human flea, *Pulex irritans*.” 37 (10), 1540-1544. [In Japanese: English summary p. 1544.]
- f. NARIHARA, N., YUMOTO, Y., OSAKA, K. & MAEDA, T., 1938.—“Intestinal parasitic infections of Japanese and Formosan Chinese school children in Taihoku City.” 37 (10), 1581-1606. [In Japanese: English summary pp. 1605-1606.]
- g. OSAKA, K., 1938.—“Studies on the biological behaviour of the cercariae of *Schistosoma japonicum*. Part I. Observations on the escape of cercariae from their snail hosts.” 37 (12), 1952-1964. [In Japanese: English summary pp. 1953-1954 [1963-1964].]

(418a) Kobayashi & Yumoto give details of several abnormalities observed in *Clonorchis sinensis* from 2 rabbits. These include local dilatations of the uterus; discharge of eggs into caeca, bladder and other organs; testis in front of receptaculum in one case; uterus empty and yolk glands distended in another. Several cases are illustrated by microphotographs.

B.G.P.

(418d) The cyprinid fish *Cultericulus kneri* has been shown experimentally to be infected with *Clonorchis sinensis* cysts.

R.T.L.

(418e) Yokogawa & Yoshino examined 891 *Pulex irritans* collected from the beds of filarial subjects in Yaeyama Islands. Microfilariae were found in the mid-gut in clots of blood, and showed no development beyond the shedding of the sheath. It is concluded that the human flea is not connected with the spread of filariasis.

J.J.C.B.

(418g) Temperature of the water is the most important influence in inducing the escape of schistosome cercariae from *Katayama nosophora*. Light and duration of drying of the snails has no significant rôle. Osaka has studied the rate of emergence. It is increased with a rise in the water temperature. The cercariae rise at the rate of 1 cm. in 20.3 seconds at 25°C. and 42.4 seconds at 22.5°C. Pause periods vary from 2 to 20 seconds with an average of 7 seconds. On an average 38.0% of the total number of cercariae in a snail escape.

R.T.L.

419—Tierärztliche Rundschau.

- a. WITTE, J., 1938.—“Heilung von Magenstrongylose der Schweine durch Kupferarsenbehandlung.” 44 (48), 786-789.

(419a) Witte describes a method of treating pigs infested by *Hyostromylus rubidus* with a mixture of copper sulphate and arsenic. This was successful in 4 out of 7 heavily infested cases. Details of pathological changes brought about by the worms in the stomach wall are described. K.S.

420—Transactions of the American Microscopical Society.

- a. RANKIN, jr., J. S., 1938.—“Studies on the trematode genus *Brachycoelium* Duj. I. Variation in specific characters with reference to the validity of the described species.” 57 (4), 358-375.
- b. RALPH, P. H., 1938.—“*Cercaria concavocorpa* Sizemore becomes *Tetrapapillatrema*, a new telorchid-like genus of Plagiorchioidea Dollfus.” 57 (4), 376-382.
- c. STEELMAN, G. M., 1938.—“A description of *Gorgoderina schistorchis* n. sp.” 57 (4), 383-386.

(420a) In a recent paper [see Helm. Abs., Vol. VI, No. 299a], Rankin reduced the numerous species of *Brachycoelium* to synonymy. He now returns to this point, discussing variation in both living and preserved material as illustrated by 18 collections from numerous amphibians and reptiles. He then reviews the 12 species of *Brachycoelium* other than the type *B. salamandrae* Froel. (= *Distomum crassicolle* Rud.), most of which were based on scanty material, and concludes that they are all variants of the type, except *B. lynchi* Ingles which he transfers to *Lecithodendrium*. A table and graphs of measurements, and a series of 23 camera lucida drawings illustrate the extraordinary variation met with. B.G.P.

(420b) Ralph has discovered that *Cercaria concavocorpa* from naturally infected *Helisoma trivolvis* will encyst experimentally in all parts of the body of *Rana catesbeiana* tadpoles. Metacercariae were forcibly fed to *Chelydra serpentina*, and 42 days later nearly-mature tetrapapillate flukes were recovered from its stomach and intestine. These young adults are figured and described and a new genus, *Tetrapapillatrema*, is erected for the species. The genus falls into a not yet defined family of the Plagiorchioidea. B.G.P.

(420c) Steelman describes and figures *Gorgoderina schistorchis* n. sp., based on 10 specimens found in the urinary bladders of 3 *Necturus maculosus maculosus* which came from the Illinois River and which had been preserved in formalin for 2 years. Of the 15 other species of *Gorgoderina*, *G. tenua* Rankin, 1937 is nearest to the new form. One monorchic specimen was found. B.G.P.

421—Transactions of the Royal Society of South Africa.

- a. FANTHAM, H. B., 1938.—“*Lecithostaphylus spondylisomae* n. sp., a trematode parasite of the Hottentot fish, *Spondylisoma blochii*, found in South African waters.” 26 (4), 387-393.

(421a) Fantham studies the systematic position of the genus *Lecithostaphylus* Odhner, and concludes that it is distinct from *Steganoderma*

Stafford. *Proctophantastes* Odhner is replaced by *Deretrema* Linton, and Yamaguti's 2 genera, *Paralepidophyllum* and *Urinatrema* are added to the subfamily Lecithostaphylinae of the family Zoogonidae. E.M.S.

422—Tung-Chi Medizinische Monatsschrift.

- *a. OTTO, H., 1938.—“Weitere Beobachtungen und Erfahrungen in Canton tierische Schmarotzer der menschlichen Verdauungsorgane betreffend.” 13, 137-153.

423—Tunisie Médicale.

- *a. CARUANA, M., 1938.—“Sur une forme atypique de bilharziose vésicale.” 32, 108-109.

424—Verhandlungen der Deutschen Zoologischen Gesellschaft. (Published as Zoologischer Anzeiger, 11. Supplementband.)

- a. MIRZA, M. B., 1938.—“Behandlung des Medina-Wurms in Indien.” 40th Year, 170-172.

(424a) Mirza's short paper, which was illustrated by a film, describes the mode of infection with *Dracunculus* in Shorapur, Hyderabad, where the local inhabitants drink water from infected wells, conveying it to the mouth in cupped hands. It also describes 2 methods of removing the worm, applicable respectively before and after the head has come to the surface of the skin. B.G.P.

425—Veterinärmedizinische Nachrichten.

- a. WAGNER, O., 1938.—“Helminthiasis der Pferde.” Sonderheft, 1938, pp. 31-70.

(425a) Wagner, in a paper written for the practical veterinarian, summarizes our knowledge of the most important helminths of the horse, with special reference to control measures. He distinguishes 4 groups, viz., (i) stomach worms, (ii) worms found in the small intestine, (iii) strongyles (dealt with in more detail), and (iv) oxyurids. The paper is illustrated with life-history diagrams and 20 pages of microphotographs (mostly of strongyles). A.E.F.

426—Veterinarski Arhiv.

- a. ERLICH, I., 1938.—“Parazitička fauna mačaka iz Zagreba i zagrebačke okolice.” 8 (1), 13-34. [German summary pp. 30-34.]
b. GANSLMAYER, R., 1938.—“Laboratorijska istraživanja djelovanja kemijskih sredstava na *Galba truncatula*.” 8 (2), 64-88. [German summary pp. 86-88.]

(426a) Erlich has examined post mortem 100 cats from Zagreb and district, and found 94% to harbour helminths. The following species were recovered: *Echinochasmus perfoliatus*, *Dipylidium caninum*, *Taenia taeniaeformis*, *Toxocara cati*, *Ancylostoma caninum*, *Capillaria plica*, *C. felis cati*, and *Capillaria* sp. All 3 species of *Capillaria* were found in the bladder,

* Original not available for checking or abstracting.

and Erlich points out the confusion which exists regarding species of this genus from the cat's bladder. *Capillaria* sp. is described and figured, and differentiated from other *Capillaria* from the cat's bladder, but a decision as to whether it represents a new species is deferred until further material has been examined.

A.E.F.

(426b) After reviewing the literature on the chemical control of *Limnaea truncatula*, Ganslmayer reports on his own experiments. He found acetic acid 1% lethal in 40 minutes, 0.1% harmful only after 2 hours. KOH and NaOH, 1%, and fresh lime-water are lethal in less than 1 hour. Best results were obtained with CuSO₄, of which a large number of concentrations were used. Solutions of 1:1 million, however, were not completely effective after 72 hours. In experiments simulating natural conditions, with the snails on moist earth, powdered CuSO₄ followed by watering was not effective, nor was a sprayed 0.1% solution—1% was found necessary. In the field a large number of factors must be taken into account in selecting the best method of application.

B.G.P.

427—Veterinary Journal.

- a. GRAY, E., 1938.—“The problem of parasitic infestation.” 94 (7), 263-265.
- b. TAYLOR, E. L., 1938.—“An extension to the known longevity of gapeworm infection in earthworms and snails.” 94 (8/9), 327-328.
- c. GREIG, J. R., DRYERRE, CORNER, H. H. & SMITH, A. M., 1938.—“Border pine.” 94 (8/9), 335-341.

(427b) Taylor has found that *Syngamus trachea* larvae may live in the earthworm for 4 years 4½ months and still remain infective. He has obtained live larvae from snails over a year after infection. He suggests that the larvae would probably remain viable for the full length of life of the vector, which is believed to be 10 years for the earthworm and 5 to 6 years for the snail. He figures an encysted gapeworm larva from an earthworm showing a very marked cyst.

P.A.C.

(427c) The authors do not accept the view that “border pine” is due to helminths. Controlled experiments with sheep in a “pine” district in the Cheviot area show that “pine” is a chlorotic anaemia, and that it may be prevented and cured by iron ammonium citrate medication.

J.W.G.L.

428—Veterinary Record.

- a. TAYLOR, E. L., 1938.—“Observations on the bionomics of strongyloid larvae in pastures. I. The duration of infection in pasture herbage.” 50 (40), 1265-1272.
- b. TAYLOR, E. L., 1938.—“Demonstration on methods of estimating worm infestation in animals.” [Demonstration presented at the 56th Annual Meeting of the National Veterinary Medical Association of Great Britain & Ireland.] 50 (41), 1329-1331.

(428a) Taylor studies the rate of disappearance of infective strongyloid larvae from pasture herbage under natural conditions. A known quantity of larvae was placed on each of 49 squares contained in boxes let into the pasture and protected from slugs, birds, etc. By cutting the grass from one

square each week the longevity of the larvae was discovered over a period of almost one year. The results are plotted on graphs and show that the larvae ascend the herbage rapidly and that the rate of mortality was very high for the first few weeks, decreasing as time went on until in the case of horse and sheep trichostrongyloid larvae no living larvae were found after about the 39th week. With *Trichostrongylus retortaeformis* and *Graphidium strigosum* of the rabbit, however, the larvae died much more rapidly, and 11 and 17 weeks respectively appeared to be the maximum longevity on the grass under the conditions of the experiment. Observations on mortality of larvae on various situations on the herbage lead to the conclusion that larvae died rapidly on the top three-quarters of an inch of grass blades and those that live the longest time are closest to the soil, particularly those on the leaf sheaths. All this work shows how, by resting a pasture for a few weeks, the danger from strongyloid infection is considerably reduced. J.W.G.L.

(428b) This report of a demonstration by Taylor deals with the sugar float and Stoll dilution methods of faeces examination as can be performed by the practising veterinary surgeon. A guide is given as to the value of the examination in the diagnosis of helminthiasis. The method of estimating the degree of infection at post-mortem was then demonstrated for use in sheep and poultry. J.W.G.L.

429—Vrachebnoe Delo.

- a. VIDRIN, A. M., 1938.—[A case of echinococcosis of the heart.] 20 (2), 139-142. [In Russian.]

430—Welsh Journal of Agriculture.

- a. DAVIES, T. I., 1938.—“Some factors governing the incidence of helminth parasites in the domestic duck.” 14, 280-287.

(430a) Davies has recovered from the intestines of ducks the following helminths: *Ophryocotyle* sp., *Hymenolepis coronula*, *H. gracilis*, *Aploparaksis furcigera*, *Fimbriaria fasciolaris* and *Polymorphus boschadis*. He concludes that stagnant ponds are an important reservoir of infection, as intermediate hosts can breed rapidly and form colonies. This is more difficult in running water and the infection of stream-inhabiting birds is reduced. He believes that the absence of trematodes in S. Wales ducks is due to the geological formation. The silurian rocks, he thinks, lead to a deficiency of calcium in the water which then results in a paucity of snails, which are intermediate hosts of trematodes. P.A.C.

431—Wiener Medizinische Wochenschrift.

- a. CHIARI, O., 1938.—“Die Behandlung der Wurmkrankheiten.” 88 (23), 627-631.

(431a) Chiari recommends garlic enemas for the treatment of enterobiasis, but states that treatment is not necessary unless there is evidence of severe infestation. For ascariasis, santonin and chenopodium oil are the remedies of choice. Against cestodes male fern extract is most successful, and methods of administration are described in some detail. A.E.F.

432—Wojskowy Przegląd Weterynaryjny.

- a. KALWARYJSKI, B. E., 1938.—“Studia nad włośniami. O metodzie impregnacji jodowo-srebrzej włośni mięśniowych.” 9 (2), 123-136. [German summary pp. 135-136.]

(432a) Kalwaryjski describes the technique of iodine-silver impregnation of *Trichinella* larvae [see Helm. Abs., Vol. VII, No. 152a]. Small slices of infected meat are first treated with iodine—potassium iodide solution, washed, differentiated in hypo., thoroughly washed again, and treated with ammoniacal silver nitrate solution. The impregnated precipitate of silver iodide is then fixed in hypo. There are 4 microphotographs of treated larvae.

B.G.P.

433—Zeitschrift für Fleisch- und Milchhygiene.

- a. KELLER, 1938.—“Versuche über die Abtötung der Rinderfinne durch CO₂-Atmosphäre.” 49 (3), 43-45.

(433a) After reviewing other methods adopted for killing cysticerci in meat, Keller describes experiments carried out to determine the effect of carbon dioxide. Cysticerci in meat kept in pure CO₂ at 0°C. were still viable after 7 days; after 9 days 75% were dead, and after 10 days all cysticerci had been killed. Controls were still viable after 10 days. Experiments with oxygen had similar results, but the author states that these were not extensive enough to be conclusive.

A.E.F.

434—Zeitschrift für Infektionskrankheiten, Parasitäre Krankheiten und Hygiene der Haustiere.

- a. MATOFF, K., 1938.—“Zur Frage der Muskeltrichinellose beim Geflügel.” 54 (1/2), 116-134.

(434a) Chicks and nestling pigeons are both susceptible to trichinosis, though pigeons are more so. The muscles are infested early with large numbers of larvae, but after the fourth week most of these are dead, degenerated or becoming calcified. In pigeons where the larvae manage to encyst, the cysts are spindle-shaped and without a definite cyst wall. Mice may be infected from infected pigeon flesh, but in general bird trichinosis is of no practical importance. In one pigeon some larvae were found in the smooth muscle of the stomach wall; but the results lead Matoff to conclude that pigeons possess a relative natural immunity against *Trichinella* larvae in the muscles.

V.D.V.S.

435—Zeitschrift für Parasitenkunde.

- a. SZIDAT, L., 1938.—“Über *Allocreadium transversale* Rud. 1802 aus *Misgurnus fossilis* L.” 10 (4), 468-475.
- b. NEUHAUS, W., 1938.—“Der Invasionsweg der Lanzettegelcercarie bei der Infektion des Endwirtes und ihre Entwicklung zum *Dicrocoelium lanceatum*.” 10 (4), 476-512.
- c. KAHL, W., 1938.—“Nematoden in Seefischen. II. Erhebungen über den Befall von Seefischen mit Larven von *Anacanthocheilus rotundatus* (Rudolphi) und die durch diese Larven hervorgerufenen Reaktionen des Wirtsgewebes.” 10 (4), 513-534.

- d. SZIDAT, L., 1938.—“*Pseudobilharziella filiformis* n. sp., eine neue Vogelbilharzie aus dem Höckerschwan, *Cygnus olor* L.” 10 (5), 535-544.
- e. JUNGES, W., 1938.—“Systematik und Variabilität der pflanzenparasitischen Aphelenchen, sowie deren Verbreitung an verschiedenen Wirtspflanzen.” 10 (5), 559-607.
- f. SCHUMACHER, W., 1938.—“Untersuchungen über den Wanderungsweg und die Entwicklung von *Fasciola hepatica* L. im Endwirt.” 10 (5), 608-643.
- g. HEIDEGGER, E. & MENDHEIM, H., 1938.—“Nachtrag zur Arbeit E. Heidegger und H. Mendheim: Beiträge zur Kenntnis der Gattung *Platynosomum* I. [Diese Zeitschrift 10, 94-107 (1938).]” 10 (5), p. 674.

(435b) Neuhaus elucidates the few remaining obscurities in the life-cycle of *Dicrocoelium dendriticum* [see Helm. Abs., Vol. V, Nos. 171a & b]. Thus, in the intermediary, the cercariae escape from the sporocysts and leave the liver in the venous circulation, passing via the vena magna to the respiratory chamber where the multiple cysts or “Schleimballen” are formed. In the definitive host the cercariae travel via the portal circulation to the liver, which they reach in 5 to 8 days, there to lose tail and stylet. Early stages are spent in the finer bile ducts. Although growth is completed in 7 weeks, it is another 4 weeks before egg-laying begins. The rudimentary testes are symmetrically placed, asymmetry (normal or amphitypic) gradually developing in response to the flexing of the uterus between them.

In nature, the “Schleimballen” are secreted from the snail in humid weather following bright sunshine. In the laboratory it was found necessary to irradiate the snails, in turf-lined vessels, with a Vitalux lamp 1.2 m. distant, for 1 to 5 hours daily for 8 days, after which the turf was sprinkled with water and the vessels covered with glass: “Schleimballen” appeared in 12 to 24 hours.

B.G.P.

(435d) Szidat gives an illustrated description of *Pseudobilharziella filiformis* n. sp. from rectal and mesenteric veins of *Cygnus olor*, in East Prussia. *P. kowalewskii* Ejsmont, 1929 was created for some male schistosomatid worms from *Anas crecca* which Kowalewski (1896) mistook for young *Bilharziella polonica*; a second species, *P. querquedulae* was added by McLeod, 1937; and Szidat considers that *Bilharziella yokogawai* Oiso, 1927 should also be transferred to *Pseudobilharziella*. The present material consisted of several male fragments and a few female fragments. Testes are numerous and, in both sexes, the posterior end of the body is splayed out. Eggs, from the rectal mucosa, show great variation in size.

B.G.P.

(435e) Junges presents the results of an extensive series of observations on the populations of *Aphelenchoides* found parasitizing a large number of cultivated plants in the vicinity of Dresden, Germany. These can be classified into 2 distinct species, namely, *Aphelenchoides olesistus* and *Aph. ritzema-bosi*. Of diagnostic value is the weakly curving male tail of *Aph. olesistus* as compared with the strongly curving tail of *Aph. ritzema-bosi*. Transitional forms between the two do not occur. A number of new host plants for each species are listed and one host, namely, *Aster alpinus* var. *altaicus*, was found to harbour populations of both species which retained their separate identity without any tendency to mixing. Detailed investigations on the variability of both species are presented as well as the results of various cross-infection experiments.

T.G.

(435f) After an informative section on the rearing of *Limnaea truncatula* as a source of encysted cercariae of *Fasciola hepatica*, Schumacher passes on to a detailed account of his experiments to establish the route of migration of young flukes in the definitive host. The following experimental hosts were sacrificed at various times after infection (within the limits given in parenthesis): 38 guinea-pigs (30 minutes to 56 days), 18 rabbits (22 to 76 days), and 9 sheep (1 to 126 days). In the short-time experiments, the various sections of the alimentary canal were examined separately. During the migration period, body cavity, liver, bile-duct, and (in most cases) portal vein were examined.

This mass of data leaves no doubt that the flukes begin to excyst in the small intestine within 30 minutes. They appear in the body cavity at the earliest 2 hours after infection, and in the liver at the earliest after 48 hours. The majority reach the liver after 4 to 6 days. The major bile ducts are reached after 7 to 8 weeks at sexual maturity. During migration no flukes were found in the bile duct and none in the portal vein. The highest recovery from the body cavity was 46% of 200 cysts fed, 24 hours after feeding (a guinea-pig), and from all locations 57% of 100 cysts fed, 66 days after feeding (a rabbit). The highest recovery from sheep was 36% of 400 cysts fed, 110 days after feeding; at this time only 62 flukes were in the bile ducts.

B.G.P.

(435g) Early in 1938 Heidegger & Mendheim described a new species of trematode: *Platynosomum fallax* [see Helm. Abs., Vol. VII, No. 151a]. Now finding that this specific name occurs in the nematode genus *Rictularia*, they [wrongly] suppose their name preoccupied and propose in its place *P. ventroplicatum* nom. nov. [To add to the confusion, the new name is set out as: "*Platynosomum ventroplicatum* (Heidegger & Mendheim, 1937)".]

B.G.P.

436—Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz.

a. KOTTHOFF, P., 1938.—"Stockkranker Mais." 48 (4), 199-201.

(436a) Kotthoff has tested the susceptibility of maize to attack by the stem eelworm, *Anguillulina dipsaci*. On heavy land, where beet (or mangolds) were severely affected by this parasite, maize seedlings, when about 30 to 40 cm. high, were badly crippled by eelworm attack; the symptoms of disease resembling those on rye and oats with swelling of the base of the plant and stunted growth. Large numbers of the parasite in all stages of growth were found in diseased plants. Horseradish (*Cochlearia armoracia*) was also found to be attacked by *A. dipsaci*.

T.G.

437—Zeitschrift für Urologie.

a. SCHMIDT, A., 1938.—"Über Nierenechinokokken." 32 (7), 444-457.

438—Zentralblatt für Bakteriologie. Abteilung 1. Originale.

- a. ZYGMUNT, A., 1938.—“Ein grosser Zystizerkus der *Taenia solium* in der Leber.” 142 (7/8), 374-376.

(438a) Zygmont reports a single cysticercus of *Taenia solium* from the liver of a woman dying of pneumonia: an adult *T. solium* was also found in the small intestine. [He speaks of “cysts” the size of an orange, but the actual cysticercus measured only 1.5 cm. in length.] B.G.P.

439—Zentralblatt für Bakteriologie. Abteilung 1. Referate.

- a. ROSE, G., 1938.—“Erfahrungen bei der Bekämpfung der Schistosomiasis unter bauerlicher Bevölkerung in China.” 129 (9/10), 237-239.

(439a) A useful aid in mass diagnosis of chronic Schistosomiasis japonica is a diastasis of the recti abdominalis muscles. When infection occurs before puberty, bodily and mental development are retarded, resulting in schistosome dwarfs. Natural recovery or equilibrium between host and parasite may occur. In severely infected areas the whole population may be wiped out in one generation, and in lightly infected areas there is a decrease balanced only by immigration. Attempts to give mass treatment fail to deal with all the carriers. Even among the cured many relapse. Control of night soil used for field manure is more promising, while the removal of plant growth from ditches and canals is fatal to the snail intermediaries. R.T.L.

440—Zentralblatt für Chirurgie.

- a. BALTIM, W., 1938.—“Zur Diagnostik und Therapie des Leberechinococcus.” 65 (22), 1247-1250.

441—Zentralblatt für Gynäkologie.

- a. FRORIEP, E., 1938.—“Über einen Fall von Oxyuris-vermicularis-Implantation auf den Peritoneum.” 62 (17), 923-926.

442—Zoologischer Anzeiger.

- a. SOÓS, Á., 1938.—“Zwei neue tyrrhobionte Nematoden-Arten.” 124 (9/10), 281-286.

(442a) Soós describes and figures females of *Rhabditis uliginosa* n. sp. and *Diplogaster sphagni* n. sp., from Hungarian peat bogs. In both cases males were not found. T.G.

NON-PERIODICAL LITERATURE.

- 443—BRUMPT, E. & NEVEU-LEMAIRE, M., 1938.—“Travaux pratiques de parasitologie.” Paris, 3rd edit., vi+317 pp.

- 444—*CARBONELL, D., 1938.—“La parasitología en Venezuela y los trabajos del Dr. M. Nunez Tovar.” Caracas, 420 pp.

* Original not available for checking or abstracting.

- 445—CARLETON, H. M. & LEACH, E. H., 1938.—“Histological technique for normal tissues, morbid changes and the identification of parasites.” London, 2nd edit., xvi+383 pp.

- 446—GAUGET, G., 1938.—“Les parasites du cobaye.” Thèse, Alfort, 61 pp.

The guinea-pig harbours but few helminths in nature; Gauguet mentions only the following. *Fasciola hepatica* is very rare; *Hymenolepis nana* (immature) has been recorded once by Ransom; *Paraspidodera uncinata*, in the caecum and colon, is the only species at all common. Gauguet also mentions *Trichinella spiralis* as an experimental infection and *Cephalobus aberrans* as possibly a contamination.

B.G.P.

- 447—HEIDEGGER, E., 1938.—“Pelztierkrankheiten und ihre Bekämpfung.” München, 172 pp.

- 448—HOOS, R., 1938.—“Die Finnigkeit des Rindes, prophylaktische und medizinisch-forensische Betrachtungen.” Inaugural-Dissertation, Hannover, 24 pp.

Cysticerciasis has increased in cattle in Germany, in spite of all the measures taken against it. Hoos gives statistics of incidence under the various German States, and discusses the possibilities of more effective control through the co-operation of the medical and veterinary professions and through changes in the existing laws.

B.G.P.

- 449—HÜBNER, F., 1938.—“Die Magenwurmseuche des Rehwildes. Beobachtungen und Untersuchungen über ihre Bekämpfungsmöglichkeiten.” Berlin, 22 pp.

Hübner finds that *Chabertia ovina*, and to a less extent *Haemonchus contortus*, are mainly responsible for helminthiasis in roe-deer. Infections are highest on heavy soils, in yearlings and again in very old animals, and in the months March/April and September/October. Symptomatic are low weight, especially of the horns, and delayed change of coat. In the absence of effective anthelmintics, the best control measures are widespread winter feeding and ruthless weeding out of sick animals.

B.G.P.

- 450—MÖNNIG, H. O., 1938.—“Veterinary helminthology and entomology. The diseases of domesticated animals caused by helminth and arthropod parasites.” London, 2nd edit., xviii+409 pp.

- 451—PINTO, C., 1938.—“Zoo-parasitos de interesse medico e veterinario.” Rio de Janeiro, xv+376 pp.

- 452—SCHOENE, W., 1938.—“Die Verbreitung der Strongylienarten bei Militärpferden im Standorte Hannover und Versuche zur Klärung des Wanderungsweges ihrer Larven im Tierkörper.” Inaugural-Dissertation, Hannover, 68 pp.

Sheathed larvae of *Strongylus vulgaris*, *S. equinus* and *Trichonema* spp., administered orally to mice and guinea-pigs, only penetrate to the intestinal wall in very small numbers. A few, mostly exsheathed, appear in the faeces. Those still sheathed were dead. The larvae of *S. equinus* migrate to their site of development in the body by way of the blood- and lymph vessels. There

was no proof of migration through the abdominal cavity. These larvae only very exceptionally live for any length of time in these hosts, for the majority are soon attacked and destroyed by the intestinal juices. *Trichonema* larvae are particularly sensitive. R.T.L.

- 453—SCHOOP, G., 1938.—“Krankheiten der Edelpelztiere und ihre Bekämpfung.” Hannover, 193 pp.

- 454—TERHORST, H., 1938.—“Untersuchungen über die Invasionstüchtigkeit der Rinderfinne nach Aufbewahren finnigen Fleisches in Kühlräumen.” Dissertation, Giessen, 32 pp.

Terhorst's experiments show that cysticerci in meat are not infective after 23 days at 0·0 to 0·5°C., although they remain viable up to the 29th day. At 2 to 3°C. cysticerci remain viable up to 37 days, but are not infective after 25 days. A.E.F.

- 455—WILLEKE, H., 1938.—“Beitrag zum Parasitenbefall von Wildkaninchen und Hasen aus freier Wildbahn.” Inaugural-Dissertation, Hannover, 29 pp.

Willeke reports on the parasites of 60 rabbits from Münster and 4 rabbits and 8 hares from the Lüneburger Heide. The findings for each host are set out in a table, and worm counts are given in respect of *Graphidium*, *Cittotaenia* and *Cysticercus pisiformis*. Noteworthy are the finding of *Protostrongylus commutatus* and a single *Fasciola hepatica*, each in only one rabbit, and the complete absence of *Trichostrongylus retortaeformis* from the 64 rabbits while it was present in 5 of the hares. B.G.P.